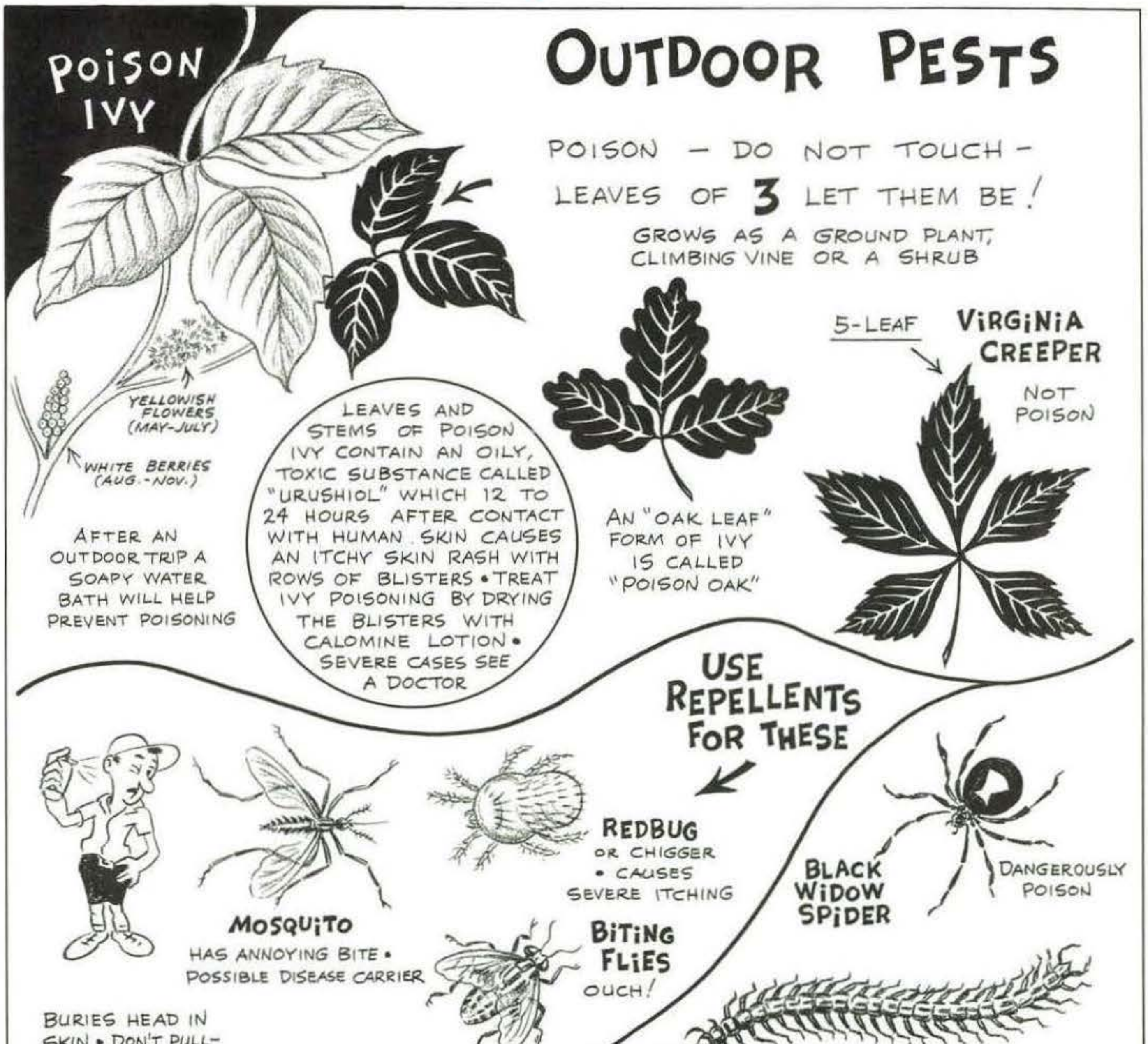
Florida WILDLIFE

The Warmouth
Finny "Fossils"

Fishing · Hunting
· Conservation ·
Outdoor Recreation

JUNE 1971
The Florida Magazine for all Sportsmen
25 CENTS

Florida Wildlife Scrapbook



OUTDOOR PESTS

POISON — DO NOT TOUCH — LEAVES OF **3** LET THEM BE!

GROWS AS A GROUND PLANT, CLIMBING VINE OR A SHRUB

AFTER AN OUTDOOR TRIP A SOAPY WATER BATH WILL HELP PREVENT POISONING

LEAVES AND STEMS OF POISON IVY CONTAIN AN OILY, TOXIC SUBSTANCE CALLED "URUSHIOL" WHICH 12 TO 24 HOURS AFTER CONTACT WITH HUMAN SKIN CAUSES AN ITCHY SKIN RASH WITH ROWS OF BLISTERS • TREAT IVY POISONING BY DRYING THE BLISTERS WITH CALOMINE LOTION • SEVERE CASES SEE A DOCTOR

AN "OAK LEAF" FORM OF IVY IS CALLED "POISON OAK"

USE REPELLENTS FOR THESE

MOSQUITO HAS ANNOYING BITE • POSSIBLE DISEASE CARRIER

REDBUG OR CHIGGER • CAUSES SEVERE ITCHING

BITING FLIES OUCH!

TICKS BURIES HEAD IN SKIN • DON'T PULL — HEAD WILL BREAK OFF — CAUSE INFECTION • COVER WITH HEAVY OIL TO CLOSE BREATHING DUCTS • TICK MAY REMOVE HEAD IMMEDIATELY OR REMOVE CAREFULLY WITH TWEEZERS AFTER ABOUT 30 MINUTES

BLACK WIDOW SPIDER DANGEROUSLY POISON

CENTIPEDE • PAINFUL BITE

WASPS and BEES PAINFUL STING • CAN BE FATAL TO PERSONS ALLERGIC TO THEIR POISON

STAY AWAY FROM THESE!

FLORIDA WILDLIFE MAGAZINE • FLORIDA GAME AND FRESH WATER FISH COMMISSION

Florida WILDLIFE

VOL. 25, NO. 1

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Publications Department
BILL HANSEN *Editor*
WALLACE HUGHES *Art Director*
GENE SMITH *Editorial Assistant*
C. L. SATTERFIELD *Circulation*

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The Cover

A nocturnal bird with a familiar voice heard throughout Florida during the summertime, the Chuck-Will's Widow is related to, but not the same as, the Whip-Poor-Will. See page 19.

From A Painting By Wallace Hughes

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REGIONAL OFFICES

Northwest Region
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226 Airport Drive
Panama City, Florida 32402

Northeast Region
ROBERT BRANTLY, Manager
Route 1, Box 18
Lake City, Florida 32055

Central Region
J. W. BICKERSTAFF, Manager
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Ocala, Florida 32670

Southern Region
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Lakeland, Florida 33801

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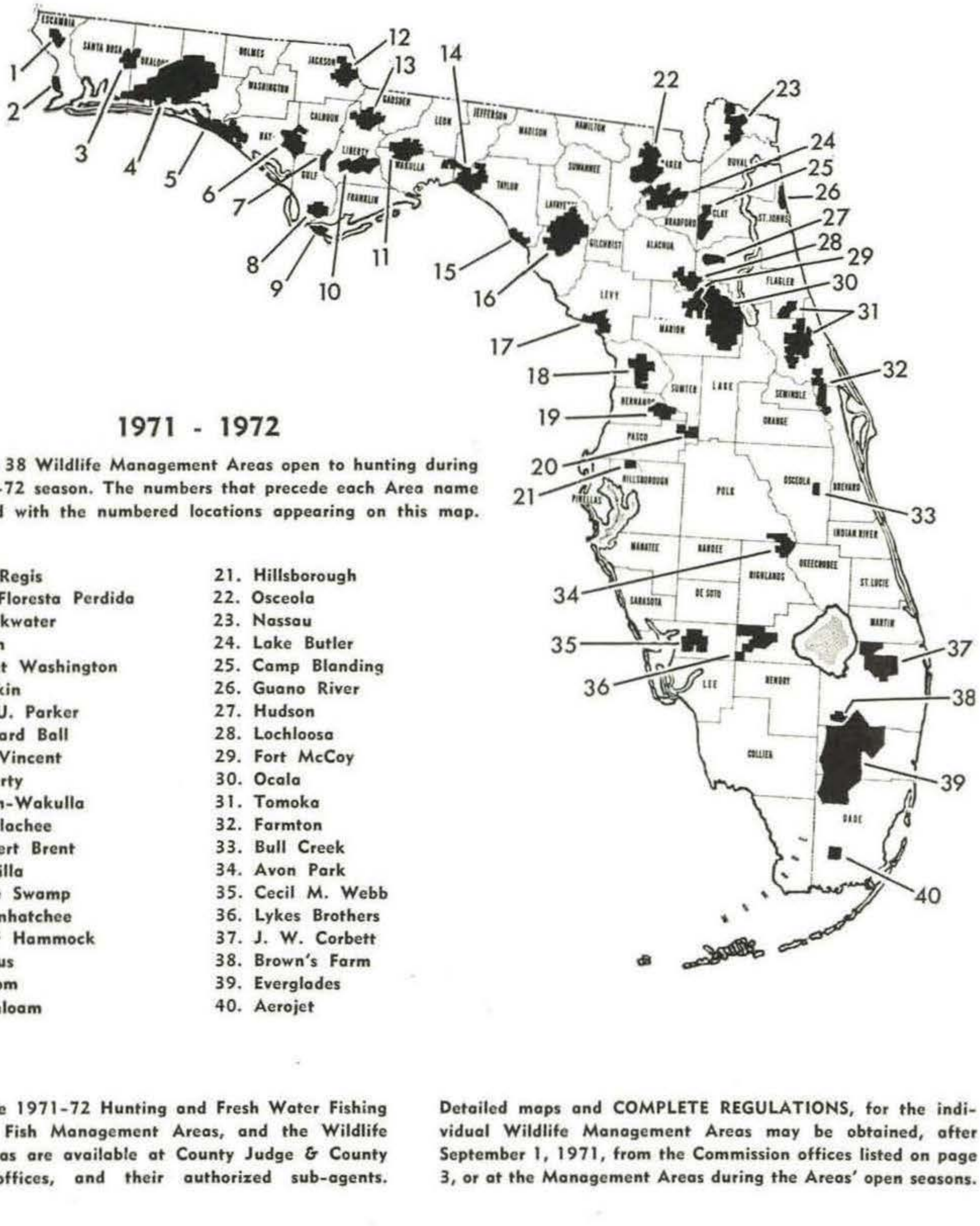
Wildlife Management Areas



1971 - 1972

There are 38 Wildlife Management Areas open to hunting during the 1971-72 season. The numbers that precede each Area name correspond with the numbered locations appearing on this map.

1. **St. Regis**
2. **La Floresta Perdida**
3. **Blackwater**
4. **Eglin**
5. **Point Washington**
6. **Gaskin**
7. **G. U. Parker**
8. **Edward Ball**
9. **St. Vincent**
10. **Liberty**
11. **Leon-Wakulla**
12. **Apalachee**
13. **Robert Brent**
14. **Aucilla**
15. **Tide Swamp**
16. **Steinhatchee**
17. **Gulf Hammock**
18. **Citrus**
19. **Croom**
20. **Richloam**
21. **Hillsborough**
22. **Osceola**
23. **Nassau**
24. **Lake Butler**
25. **Camp Blanding**
26. **Guano River**
27. **Hudson**
28. **Lochloosa**
29. **Fort McCoy**
30. **Ocala**
31. **Tomoka**
32. **Farmton**
33. **Bull Creek**
34. **Avon Park**
35. **Cecil M. Webb**
36. **Lykes Brothers**
37. **J. W. Corbett**
38. **Brown's Farm**
39. **Everglades**
40. **Aerojet**

A summary of the 1971-72 Hunting and Fresh Water Fishing Regulations, the Fish Management Areas, and the Wildlife Management Areas are available at County Judge & County Tax Collector offices, and their authorized sub-agents.

Detailed maps and COMPLETE REGULATIONS, for the individual Wildlife Management Areas may be obtained, after September 1, 1971, from the Commission offices listed on page 3, or at the Management Areas during the Areas' open seasons.

Vehicles—No motor-powered vehicle shall operate on any part of any management area designated as closed to vehicular traffic. The use of two-wheeled motor-powered vehicles is prohibited on any roads or trails not open to or used by four-wheeled vehicles, unless otherwise provided by area regulations. On most management areas vehicles are permitted only on established roads. Parked vehicles must not obstruct roads or firelanes.

Littering—Florida law prohibits littering of public lands or highways. Persons convicted of throwing or dumping refuse or rubbish thereon are subject to $100.00 fine.

Intoxication—Intoxicated persons will not be allowed to hunt on wildlife management areas.

Wildlife Officer Notes

Florida's senior wildlife officer, Walter H. Larkins of Bristol, retired in April after 30 years service with the Law Enforcement Division of the Game and Fresh Water Fish Commission.

Larkins, who will be 65 in October, is a native of Liberty County—born in Bristol and a graduate of Bristol High School. He joined the Army in 1929, but, upon being honorably discharged in '31, returned to "familiar territory."

A hunting and fishing enthusiast since early boyhood—and an expert woodsman of the old school—Larkins began his career in wildlife law enforcement in 1936, before the present commission was established. He worked until 1941, was self-employed for 5 years, was rehired by the Game & Fish Commission in 1946, and has served continuously the past 25 years.

Besides having served longer than any of his fellow officers, Larkins holds the distinction of having been assigned to the same county the entire time, although he was supervisor of wildlife officers in a four-county enforcement area for 18 years.

Larkins earned wide respect and countless friends for wildlife conservation through his impartial enforcement of hunting and fishing laws and his courtesy in dealing with people. A number of sportsmen, some of them Florida residents; some, out-of-state visitors, commended him in letters to his superiors for fair, firm, and always-gentlemanly conduct while doing his job.

He can relate the details of the first case he made—against a hide buyer operating without a license—and he can recount scores of fascinating hunting stories and anecdotes from the field, the courtroom, and the hunting camp. Many of the stories are related to bear hunting in the Apalachicola National Forest.

Larkins was for years hunt supervisor of the commission's managed bear hunts in Liberty County, the southern half of which is national forest land. His prowess at reading bear sign—and bear *minds,* it would sometimes appear—is legendary in his own time. Bear-hunter friends and acquaintances from Miami to Pensacola will tell you he always seemed to know each bear's travelways and could almost unfailingly predict the twists and turns each bruin would make and the crossing place it would choose. (He even had names for many of the bears.)

Once I was riding with Walter on an early morning drive down State Road 65. We were on our way to locate and mark fresh bear tracks in preparation for the day's hunt. He suddenly braked his sedan to a halt, backed up a few feet, and pointed to the pavement. There *across the blacktop road was a faint, but distinct, set of bear tracks*—tracks a dozen or more hunters had driven over and failed to see. There had been a heavy dew and the animal's wet pads had left prints of fine sand with each step—but it took a fellow who knew what to look for to spot them, from a moving vehicle, yet!

Photo By Art Runnels

Walter H. Larkins retired after serving 30 years as a wildlife officer in Liberty County. Hired six years before the present Game & Fish Commission was established, he has seen conservation and law enforcement "come of age" in Florida.

One of the most memorable bear hunts, says Walter, was the outing a few years back on which visiting outdoor writer Charlie Harris of The Orlando Sentinel, licensed to hunt but mostly after a good story, exchanged his note pad and camera for a gun and killed a nice bear.

"He was about as excited as any hunter I ever saw," says Larkins. "The dogs had split in all directions on that race and everybody thought it was over. I heard one dog that sounded like he'd struck, so I told the boys there was *another* bear moving. They didn't quite believe me. I loaded Red Harris up and put him on a stand where I figured the bear would cross, and he killed it clean as a whistle."

A footnote to this story still gives Larkins a chuckle, too:

"I got a radio call and had to leave the party after Red had killed his bear. Since he didn't have a lunch with him, I offered him mine. 'No thanks,' was his quick reply, 'I won't be needing any today!' He was still too excited over that bear to bother with a little thing like eating," recalls Larkins.

Pressed for a comment or two on an unusual

(*Continued on next page*)

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case or arrest, Larkins simply says, "You name it; in my 30 years, I've seen it. But the very last case I made comes close to being the hardest to figure out."

In late March, at 2:30 a.m., he was notified by Sheriff L. C. Rankin's office that night hunting (with gun and light) was in progress near Bristol. With the help of the sheriff and his deputies and several local residents, who had called the sheriff's office to report the offense, Larkins arrested three young men and two girls, ages 18 and 19, and charged them with taking deer unlawfully.

They had killed two fawns, which were taken as evidence, along with three expensive big game rifles, two fine shotguns, ammunition for all five guns, a hand spotlight, and a 1967 sedan.

"I haven't yet figured out why they did it," says Larkins. "It just doesn't make sense. They were far from the typical fire-hunters I've encountered over the years. Those usually drove junky cars and used old, worn-out guns they didn't mind throwing away—or losing in case they were caught."

(The three men were fined $351 each and ordered to pay an additional $120 per animal for replacing the deer or serve 90 days. The case against the two girls is still pending. The firearms, ammunition, and spotlight were ordered forfeited to the state.)

Comparing wildlife law enforcement today with when he began work under the old Commission of Game and Fresh Water Fish, Larkins says, "I am encouraged by the amount of help and support we've gotten in recent years. There were times when nearly everybody violated game laws and thought nothing much of it. Today, however, people have pretty well come to realize the importance of those laws to continued hunting and fishing.

"I'm particularly proud of the way the people of Liberty County and surrounding counties have supported me, and of the way the courts have come to consider violations of the Wildlife Code as serious offenses, which they are. I remember times when a $20 fine was a 'heavy' penalty for a major game or fish law violation."

Asked his advice to young wildlife officers just starting out, Walter said, "Tell them to remember to be courteous to all people, even when the going gets rough—and sometimes that can be a pretty difficult thing for an officer to do. But I believe that would be my number one rule for gaining public support for wildlife conservation, for building respect for the commission program over the years, and for getting along with one's fellow man from day to day."

Larkins and his wife Helen will continue to make their home at Bristol.—*Gene Smith*

Fish Management Notes

COMMISSION FISHERY biologists must continually collect fish samples for one purpose or another. Sometimes it's for a fair exhibit, but more often for research purposes.

In April, for example, biologists William Wegener and Bob Schneider of the Central Region office at Ocala reported, ". . . Rodman Pool was spot sampled early in the month to check on whether or not the bass had spawned. Indications were that they had not. Lake Underhill was electrofished on two occasions to provide fish for heavy metals analysis. This is for background data prior to construction of the expressway. Two electrofishing and netting trips were also made to the lower Withlacoochee River and to Crystal River. These fish samples are to be analyzed for background radioactivity prior to operation of the nuclear power plant there. Thus far, fish have had low readings, but a rattlesnake from the area was found to be radioactively 'hot'.

"Walt Disney World's Bay Lake was sampled to determine what species have invaded it since it was drained. We found warmouth starting to come on strong, and a few gar. . . ."

ON EASTER SUNDAY, native striped bass were successfully spawned at the Welaka National Fish Hatchery, according to Commission Biologist Harold Moody of Eustis, head of the St. Johns and Withlacoochee River Project.

Approximately 900,000 eggs were obtained and fertilized from adult striped bass captured by Game & Fresh Water Fish Commission personnel and delivered to the federal hatchery under terms of a cooperative agreement between Putnam County, the State, and the Federal Government.

Moody said, "Approximately 400,000 young were estimated to have survived through the larval stages. The juvenile fish have now been transferred to the hatchery ponds for rearing."

WORK IS CONTINUING on construction of a new fishing lake on Hurricane Creek in Okaloosa County, reports Regional Fishery Biologist John Crew of DeFuniak Springs in his May activity report.

"All principal spillway pipe is in place, with concrete bedding and anti-seep collars having been poured. The riser was also poured in May," he says.

Construction on the 300-plus-acre lake was begun April 1 and should be completed within the contract limit of 150 calendar days, according to Fish Management Specialist Robert Carr, who is working full time on the project. Carr is acknowledged as the Commission's foremost authority on lake and pond construction. ●

INSECT PESTS . . .

to Spray or not to Spray

Before you or anyone in your family picks up a spray can of insecticide, try a fly swatter instead. An "ounce of prevention" is always better than the "cure" when it comes to pesticides. Hold the number of pests down *before* they have a chance to start a population explosion. Use natural controls instead of pesticides, if possible.

Repair your worn-out screens. If you have grass, keep it cut and raked. Let the sunlight in. Don't give the insects a chance to hide and begin a family. A mixture of shrubbery and outdoor plants and trees is better than all of one kind. If you have one badly infested plant or bush, don't smother it with a pesticide. Try something else (see chart) or remove the plant.

Homeowners often use more pesticides per square foot than farmers do, thinking that if a little does good, much more will be better. The homeowner who wants no insects should have no garden—where there are plants, there are insects. Seldom in a home garden do the insects get out of control, unless the gardener upsets the natural balance.

There is a simple answer to weeds, unless you have acres of them. Instead of rushing out and getting a herbicide, try a few "pleasant" hours just pulling them out by the roots. Someone once said that the best weed killer was the human hand.—From Ranger Rick's Nature Magazine, May/June 1971, *Pesticides* by John Frederic.

Chemical pesticides are designed to kill. The decision to kill is always a serious one, especially since most insects are beneficial. So know that you have an insect pest problem, and that it is stubborn enough to warrant chemical use, before resorting to pesticides. Most leaf-chewing by insects is a constructive part of natural processes. Don't become panicky. Don't spray in anticipation. Use dusts rather than sprays where possible. Do no more than spot treatment, nothing broadcast.

Cleanliness in and around the home, the elimination of stagnant water (watch clogged gutters, drains, storm sewers, rain-filled containers), and diversified plantings help nature do the insect-control work. With proper environmental management, 90 percent of your problems will vanish.

As for herbicides, we used 2,4-D and 2,4,5-T, the commonest weed-killers, with equanimity for 25 years, then suddenly learned that 2,4,5-T has cancer-forming potentialities. Irresponsible quantities of herbicides have been spread and sprayed to control lawn weeds, "brush" along rights-of-way, and "cover" in the Vietnam war. If you can't grow a lawn without herbicides, plant it to trees and shrubs! Use 2,4-D for spot treatment only, never broadcast. Dalapon is helpful for aquatic weed control.

When you do have a real problem try soapy water sprays first, or a light oil. If only a few specimen plants concern you, pick off insects by hand. If chemicals seem indicated, resort to those suggested in the accompanying chart. You will inevitably do some damage, but if you follow these general instructions and limit your treatment to small areas, nature's recuperative powers should soon bring recovery since you will not have disrupted her mechanisms by poisoning "the works."—From Audubon Magazine, March 1970, *An Audubon Guide to Pesticide Do's and Don'ts* by Roland C. Clement.

Do not use combinations. Do not buy insecticide mixtures, insecticides in herbicides, or fertilizers with either insecticides or herbicides in them.

Do not use mercury compounds or mercury-treated seed.

Avoid, at all costs, the following long-lived, fat-soluble chemicals:

- **Aldrin** (1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-1,4-***endo*,*exo***-5,8-dimethanonaphthalene) which, after application soon becomes:
- **Dieldrin** (1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-***endo*,*exo***-5,8-dimethanonaphthalene)
- **DDT** (a mixture of 1,1,1-trichloro-2,2-bis(***p***-chlorophenyl) ethane and 1,1,1-trichloro-2-(***o***-chlorophenyl)-2-(***p***-chlorophenyl) ethane)
- **Endrin** (1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-***endo*-*endo***-5,8-dimethanonaphthalene)
- **Heptachlor** (1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene)

All of these tend to be magnified in natural ecosystems by being passed from one link to another in food chains, and thus poison the whole landscape. This has been the greatest ecological blunder of the generation.

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Pests	Chemical Control	Natural Control
Ants, Cockroaches	For ant nests in lawn or ant pathways into buildings, a small amount of chlordane or Diazinon[1] spray may be necessary. Diazinon or malathion, both short-lived phosphate chemicals, may be used for cockroaches, bedbugs, fleas and silverfish.	Dust desiccant powders into cracks along walls (silica gels like Dri-Die or SG67, Drione, or diatomaceous earths like Permaguard) OR: Mix equal parts of confectioners' sugar and powdered borax. Sprinkle in corners and along baseboards.
Aphids	Use nicotine sulphate, Black Flag, pyrethrum, rotenone, malathion.	Can be washed off. OR: Cut up 3 pounds of rhubarb leaves or elder leaves. Boil half an hour in 3 quarts of water. Strain. Cool. Dissolve 1 ounce soapflakes in a quart of water. Mix the two and spray. OR: Plant nasturtiums in garden.
Cabbage Worms	Allethrin.	Plant rosemary or thyme in garden. Yellow jackets are a natural enemy. OR: Cover plants with cheesecloth to prevent laying of eggs by the adult moth. OR: Sprinkle rye flour over and around plants when covered with dew.
Caterpillars	Rotenone, Diazinon, methoxychlor, or the carbaryl Sevin.	Pick off and put in a can of kerosene or oil.
Cutworms	Diazinon, Sevin.	Place a cabbage leaf upsidedown on ground. They will gather underneath. OR: Place a wide, shallow pan of stale beer, sunk level with the ground. Clean out weekly. (Also effective against slugs and snails.)
Grasshoppers	Diazinon, Sevin.	Pick off and put in a can of kerosene or oil.
Japanese Beetles	Malathion or Sevin for adults.	Milky spore disease[2] for soil grubs. OR: Plant garlic, rue or tansy (aromatic herbs) near affected plants.
Mites (Red Spiders), Thrips, Mealy Bugs	Nicotine sulphate, Diazinon, malathion, rotenone. Oil spray, hot water for mites.	Green lacewing (aphid lion) adults and larvae. Ladybug[3] adults and larvae. Praying mantis[4] (collect egg sacs in winter and place in garden). Will also control cotton bollworm, tobacco budworm and aphids.
Mosquitos	Use pyrethrins and oil on standing water that cannot be eliminated to kill larvae; use short-lived phosphates like Dibrom (naled), malathion to kill adults.	Eliminate stagnant water to kill larvae. Put up a purple martin birdhouse in your yard.
Wasps, Hornets	Apply rotenone to nest after darkness and coolness have made insects dormant, and cover tightly with cotton batting after generous dusting. Deftness and care are essential since these insects are dangerous when aroused.	Knock down new nests and destroy during the day when most insects are away.

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[1] Diazinon (Spectracide) is a broad-spectrum, reasonably short-lived phosphate that does not build up in food chains. It is thus broadly effective. But, like Baytex, it has a peculiarly increased toxicity to birds; hence, do not spray a bush that may have an active bird's nest.

[2] Buy milky spore disease from Fairfax Biological Laboratory, Clinton Corners, New York 12514.

[3] Buy ladybugs from California Bug Company, Box 2397, Route 2, Auburn, California 95603.

[4] Buy mantis egg sacs from Linwood Gardens, Dept. 743, Linwood, New Jersey 08221.

Releasing Fish

if you put fish back because you take 'em for pure sport (or already have enough for a feed), release them with care—for future challenges

By CHARLES WATERMAN

For a long time I have released nearly all of the fish I catch—fresh or salt water. For a while I kept telling myself it was good conservation and that fish turned back are there to catch another day. Under some circumstances this is true. Much of the time it's a rather naive way of looking at it. I guess the whole truth is that I just like to turn fish loose and, as long as there's no law against it, I'll probably continue to do it.

It may be I am too lazy to clean more fish than I'm forced to. Anyway, the opinion of more scientific fish people is that you can't hurt the Florida fish population with hook and line, and they'll even say releases are wasteful since a certain percentage of them die from hook injuries, and they might as well be "saved." I am not that logical, so I'll continue to turn them loose.

What fish is most likely to die when released? Many of the larger salt water species are turned loose, even though they are hooked deeply. The leader is cut and it's said the hook will disintegrate in time. The exact survival percentages can't be figured, of course, since it's hard to check up on a fish with a few oceans to swim in.

Sailfish frequently disgorge their stomachs when hooked, but experts tell me the stomachs can be swallowed again with no harmful effects. Some charter boat people start the stomach back down with a wooden paddle before releasing. At one time it was thought any sailfish that disgorged its stomach was going to die, and might as well be taken in. The truth is probably somewhere in between. A very tired salt water fish may die, even if released—weakened fish may be attacked by sharks.

You'll see black bass hale and hearty, having lost a tail or some fins and bearing great scars. If you wrecked a fish like that in catching it you'd certainly figure it was useless to turn it back. A fish can recover from terrible injuries if there is no attack by deadly parasites. A very minor injury can be fatal if infected.

After all, it seems to be the individual almost as much as the species that is destined to live or die. Black bass are pretty hardy customers, but individuals will expire on a stringer while other fish live well under what seem to be the same circumstances. Some salt water fish die almost immediately when taken from the water, and the release of such fish is completely useless.

Black bass in small private ponds can be caught repeatedly and released again without harm. Some of the repeat-catching stories are almost incredible. I have heard of fish striking only an hour or so after being released. Such fish certainly aren't hurt by the hook, at least for the time being. I am a little surprised such fish can recover from the shock of being handled, especially if they are worn down on the rod before landing. Now this is outside my experience. I have caught the same fish more than once but not in such short order.

The northern pike, a very close relative of our chain pickerel, isn't fooling when he gets ready to strike, and I have heard of a northern being released from a boat and then clobbering a spoon before he had swum 50 feet! They are a very unusual fish once they're riled and I don't doubt it, but it seems the fatigue of being landed would enter in there somewhere. Certainly the act of being caught serves as no lesson to many fish. Some are repeaters. (On the other hand, there are undoubtedly others that *never* strike lures or bait.)

Many fresh water trout fishermen catch the same fish repeatedly in smaller streams, often marking them and giving them names. The trout, however, despite its hallowed sagacity, is less advanced than the bass on the evolution route. Many trout streams would be cleaned out, at least of the willing strikers, if fish were not returned.

But there are many waters where the population would benefit through removal of fish, especially where stunting is already in evidence.

Bluegills are some of the most likely overcrowders in Florida waters. In many areas, the more you can catch and keep the better. And there's the constant argument about whether it's better to release the small fish and keep the big ones or do it the other way around.

If you're going to turn a fish loose, the proper method depends on the species. A bonefish, for example, seems to perk up quickly if you move him back and forth in the water to encourage breathing. This gentle method is commonly practiced on many kinds of fish, and I have read scathing denunciations of anyone who throws or drops a fish back into the water. However, a veteran snook fisherman once told me a snook might never recover if you simply released him gently; that he

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should be tossed in so the minor shock would get his engine going again.

I tested this out. We caught a snook that was fairly tired, but uninjured, and laid him gently back into the water where there was considerable tidal current. He ended up on his back and never moved except for slight gill movement. After he drifted a couple of hundred yards we netted him, tossed him back into the water, and he left promptly.

It happened the same way on other occasions, and I now firmly believe in *tossing* snook back. Even if the drifting snook isn't going to die without that little shock, he's a prime target for sharks. (Incidentally, I think undersized snook are among the most susceptible fish when it comes to injury by treble-hook lures. They have papery mouths and easily ripped gills.)

So there are no "rules" about returning fish.

THERE HAVE BEEN very few times when I tried fishing for bass in extremely muddy water—although I can recall catching them on one or two occasions when the water looked like coffee, with a little cream added.

When Tom Mann won the big Bass Anglers Sportsman Society bass fishing tournament over at Chattahoochee, his story of the fishing was recorded by Bob Cobb, who handles news for BASS. I read it three times.

Mann fished in some dirty water and caught fish on a "spinnerbait," a lure that undoubtedly makes some underwater sound. He explained that he's convinced bass will strike (although very gently) by sound in very cloudy water, and that they will find the lure with their mouths when they can't see it. Says the strikes are very gentle—as if coming from bass living in very cold water and hence quite sluggish.

Frankly, although I'd long recognized the part played by sound in fishing lures (sometimes the importance has been greatly exaggerated with certain baits), I always figured the fish saw the lure before he took it, however close he had to get.

Mann's story is very interesting and reminds me of one case where the water visibility was absolutely nil. I caught a bass while idly tossing a lure and figuring where else to go. Logically, Mann says, "The slower you can move the lure . . . the better your chances."

Whatever you think of competition fishing, a lot can be learned from guys like Mann, who back their ability with $125 entry fees in competition with nearly 200 other bass experts. The bass tournaments are laboratories, bound to uncover honest-to-goodness new things about bass fishing.

IT IS TIME that some of the voodoo is taken out of the ultralight rod, especially for spinning. There has been so much publicity about landing 100-pound fish with 3-ounce rods that many fishermen figure it takes some special kind of guy to do it.

Back in the misty past when good rods were made of bamboo and were easily broken, actual rod weight was much more important. With modern glass, very few sticks are broken in playing fish, and a child or slightly-built lady might as well use those teeny-weenies. Generally, ultralights do not cast as far, but they aren't tiring and they'll be usable for a lot longer time without excessive fatigue.

In fly fishing, the problem is slightly different. A slight beginner should not start with a heavy one—but he should begin with one of around eight feet, simply because fly fishing comes easier with a little more rod.

If beginning with an open-face spinning reel, I think a good starting outfit should include a rod about 6½ feet long and made for light lures of not much more than a quarter-ounce. Now, that's a starting outfit for *fishing*. Much different tackle can be used for learning the fundamentals. I do know that most beginners, especially small ones, get tired pretty quickly with all of those unaccustomed motions, and a light outfit is a help.

When it comes to fly fishing I believe the rod should be overloaded a little. The beginner is not going to make especially long casts, and nothing helps in a short cast as much as a heavy piece of line. You can feel the outfit work and know what mistakes you're making.

Bonefish should be released as quickly and gently as possible. Lures can often be removed without taking fish from the water.

Let's say that the beginner's rod calls for an eight line. Put on a nine and he or she is likely to be considerably happier with it. Later on a lighter line can be substituted if it feels better.

I AM CURIOUS to learn what will happen to south Florida fishing after drought conditions last winter and spring. The situation is especially interesting this time because for some time before the "big dry-up" the Everglades contained more water than usual. This, it appeared, was providing bigger bass than had been caught there before. Although known for some of the best bass fishing in the world, that country had never been noted for *big* fish.

As the water went down and dropped bass into the brackish heads of some of those West Coast rivers, the fishing, as usual, became very good. I've fished there many times under similar conditions, but they say the fish ran bigger last spring. I heard of one 8-pounder in a spot where a 2-pounder had always been considered a very good fish. Some of the veteran fishermen there attributed larger fish to the longer period of high water, and they said the same thing has produced the better fish caught in shallow conservation areas of the FCD.

The fish *have* been much larger there lately, but when I think I have it figured out I get back to the fact that Lake Okeechobee, always a fine bass lake, was only periodically noted for "monsters."

THERE ARE TWO basic types of guides on casting and spinning rods, in case you hadn't noticed. One type is the solid ring supported by a separate piece of metal, usually brazed to the ring. Guides have been made that way ever since glass or agate inserts were used extensively. There is nothing wrong with this type of guide if it's well made.

The other general type is made of a single piece of wire wound into a round guide, and with each end of the wire wrapped to the rod with thread. This type has certain advantages. For one thing it is more flexible, the wire forming a sort of spring that gives with the bend of the rod. Proponents say this interferes less with the action of the rod, something that's probably more important with large spinning guides than with small casting guides. Most fly rod guides are made in "snake" form of bent wire. Not many of them are bent into the complete circle used on casting and spinning outfits.

There is one beef with the wire guides on casting rods especially. It's very easy for the line to get wrapped around such guides, whereas it will simply slide off when looped over the ring guide. It is even possible for it to get wedged between the two "circles" of a typical wire guide.

It is generally pretty hard to damage the wire type of guide. I have very little preference as long as the quality is good.

High water, followed by drought, brought this typical brackish water bass into the head of one of the Everglades' many rivers.

I DON'T DRINK river or lake water any more. There was a time when I'd slurp up almost anything in the way of water as long as it wasn't salty or too muddy, but they've scared me out of it. I don't even want coffee made from water that's come very far in the open. Of course, there are purification kits that can be used in an emergency, generally required in back country where most fishermen don't go anyway. During the days of my careless youth, I must have been lucky for I never became sick as a result of my "unrefined" slurping.

WHEN WE PLAN a full day in a boat, we take a thermos of cold water and possibly one of coffee but, due to chronic laziness, I never bother with an icebox in the boat.

I'm no great lover of soft drinks anymore, but when I went out two days straight with a carbonated beverage "addict" I drank the first one to be sociable, and then hoped he'd offer another as the day got longer and hotter. On the following day I was really wanting a soft drink. I became an "addict" in two days, but I'm still too lazy to lug an icebox along unless I want to keep fish in it.

And, on the soft drink and fish subject, have you ever come up with soft drink bottles that smelled of fish? Lots of fishermen just flop their fish in on top of the cold drink bottles, and even modern science is unable to remove the aroma of fish when the bottles are returned. The odor is more likely in an area where there's lots of salt water fishing, where they use iceboxes instead of stringers. ●

Finny "Fossils"

the scaly survivors
—"jumbo size"—
of armored ancients

By NANCY CHOIKE

GEOLOGICALLY, Florida is one of the youngest land masses in the world. It has been suggested that the climate and lush vegetation of our state closely resembles the environment that existed during prehistoric times. This may be one of the reasons Florida has so many living fossils—members of animal races that were widespread and numerous in former times, but today are confined to a few species occupying a restricted area of the world. The gars and sturgeon are two such species that date back to the Devonian time period, about 300 million years ago, but they still survive in the rivers and lakes of the Sunshine State.

The Atlantic sturgeon, *Acipenser oxyrhynchus*, became a popular food item in our country in the mid-1800's. The demand for caviar, made from the roe, and smoked sturgeon meat increased the fishing pressure on this species, especially in the mid-Atlantic states. As the price of caviar and sturgeon meat increased, the abundance of the sturgeon declined proportionally.

Sturgeon fishing was also a flourishing business in Florida, especially around Apalachicola, until about 10 years ago. In 1957, the official commercial catch of sturgeon in the state was over 24,000 pounds, while the 1969 catch records show only about 12,000 pounds.

The sturgeon is an anadromous fish, that is, it lives in salt water except during spawning season when it returns to fresh water to lay its eggs. A couple of generations ago, sturgeon were so numerous along the Ochlockonee River during their spawning run that they were caught with snatch hooks. This method has been successful during recent years in the Apalachicola River below Jim Woodruff Dam, although the size and number of these fish have declined considerably.

Photo By Jim Floyd

The usual method of catching sturgeon is with a 10-inch mesh net since it is a bottom feeder and its mouth is not designed to accept a hook and line. The net is stretched across a likely spot in the river, suspended by floats and weighted on the bottom.

One unique method of capturing the sturgeon once it became tangled in the net was witnessed in the Suwannee River a few years back. The fisherman would tie a rope around the sturgeon's tail and pull it backwards behind a boat until it drowned. It was left in the water, tied to a stake near the shore, until the fisherman collected enough to head homeward—towing his entire catch.

The lower side of the sturgeon's head has four barbels, similar to those of a catfish, These are sensory organs. When the barbels detect food, a tubelike mouth is extended to take it in. Detection and consumption of food is accomplished while the sturgeon maintains its swimming rate. The stomach of the sturgeon acts as a food grinder, much like the gizzard of a chicken.

The sturgeon is armored with large, platelike scales which are composed of bone with an enamel-like covering. These rigid scales have played an important role in the survival of the sturgeon. They protect the fish from attack, prevent excessive drying, and make invasion by parasites more unlikely. The maximum length for a sturgeon is about 10 feet and weight may reach 500 pounds.

Another leftover from Devonian times is the gar. Four species of gar are found in Florida: the longnose gar, *Lepisosteus osseus*; The Florida gar, *L. platyrhincus*; the spotted gar, *L. oculatus*, and the alligator gar, *L. spatula.*

The normal range of the alligator gar is the panhandle area of Florida from the Choctawhatchee Bay westward, although an 80-pound specimen was caught in the Tamiami Canal near Royal Palm Hammock in 1959. The largest alligator gar on record was a female from Belle Island Lake, Vermilion Parish, Louisiana, that was 9 feet 8.5 inches long and weighed 302 pounds. The largest alligator gar caught on hook and line was 279 pounds, 7 feet 9 inches long, which was taken from the Rio Grande River in Texas in 1951.

It takes a strong angler, with salt water tackle, to land one of these monsters. Gars may also be taken by gigging during daylight hours, as long as you are not swimming or diving, although the ganoid scales of a large alligator gar have been known to turn an axe.

Spawning season for the gars is from February to June when they move into shallow water to lay their eggs. The female is usually accompanied by four to six males who fertilize the eggs externally. The blue-white eggs are about the size of BB shot and they adhere to most any surface in the spawning area. Unlike the eggs of the sturgeon, gar roe is poisonous to humans, but two or three on a hook make excellent bait for bream.

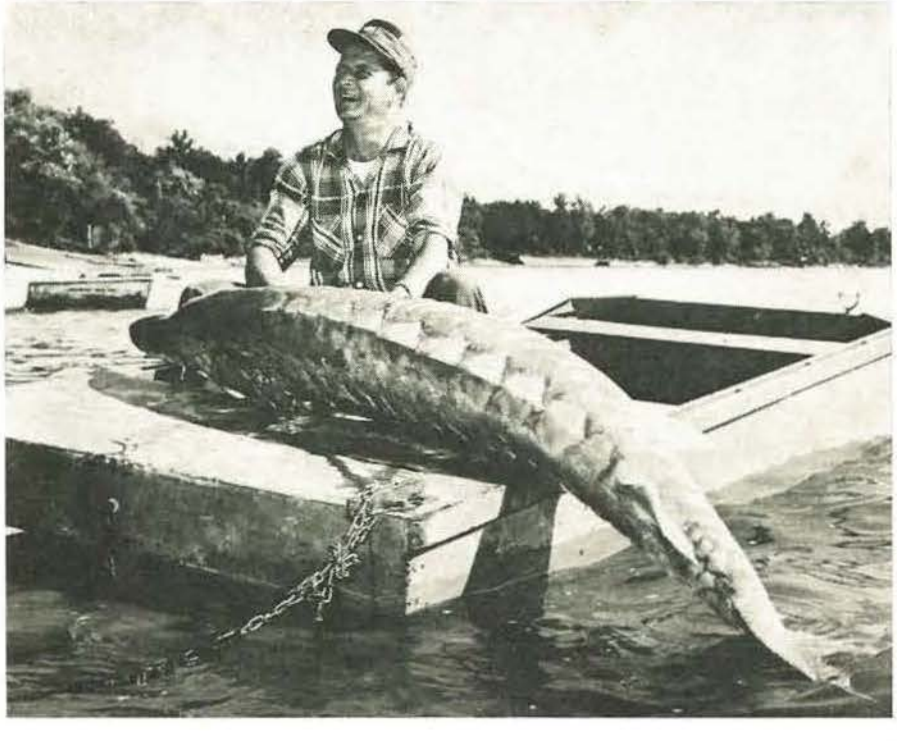
After about three days, the fertilized eggs hatch and the gar fry attach to a piece of vegetation by a suckerlike disc on the end of its nose. In four to six days, the yolk sac is absorbed and the gar become free swimmers with well developed jaws, teeth and fins. The fry feed on tiny invertebrates at first then graduate to fish fry and larger, usually nongame forage fishes. Game fish may be eaten, however, this generally occurs only in times of extreme stress. Gars are usually rather sluggish, spending a lot of time basking on the surface of the water, and are often found with totally empty stomachs. There is no record of an attack on man. Gars generally head for deeper water when disturbed.

Alligator gar flesh has been sold for food and their scales have been used in jewelery and artwork. The Indians used the scales from large gars for arrowheads, and they were tough enough to be used as covers on plowshares.

The gars absorb oxygen through their gills, but when the water becomes low or polluted they rise to the surface and gulp air into a lunglike bladder. Thus, while other fishes are perishing, the gars survive and feed on their dying neighbors. This ancient breathing mechanism is one of the chief agents for the survival of the gar throughout history.

The alligator gar and the sturgeon have been well equipped to survive through the ages. Only man's interference can undo nature's marvelous handiwork and pose a threat to Florida's finny fossils. ●

Photo By Art Runnels



Largest fish found in Florida's fresh waters are alligator gar, above left, and the sturgeon, right. Some sport fishing activity is provided by alligator gar along the Choctawhatchee River, and commercial catches of the sturgeon are still made in the Apalachicola River. Flesh of both fish is edible but, unlike sturgeon roe, the gar roe is poisonous.

The Warmouth

By ART HUTT

INCH-FOR-INCH and ounce-for-ounce, the warmouth has been called the gamest panfish that swims. Many anglers list it second only to the largemouth bass in sporting qualities.

Its scientific name, *Lepomis gulosus*, being difficult to pronounce—and even more difficult to remember—you probably know the warmouth by that simple handle, or, possibly, by warmouth bass, warmouth perch, or goggle-eye. These four are probably the most popular names for the species among Florida fishermen, although someone occasionally calls it a stumpknocker—a different fish entirely.

Elsewhere in the native range of the warmouth, it is variously known as mud bass, wood bass, weed bass, buffalo bass, sun trout, yellow bream, bigmouth sunfish, Indian fish, black sunfish, jugmouth, yawmouth, or mud chub.

It would be simpler if everyone called it by the common name suggested by the American Fisheries Society: warmouth.

Although it was successfully introduced on the West Coast in 1891, the warmouth's natural range is generally the south and east portions of the United States, roughly bounded by a line drawn from the Gulf up through Texas, Kansas, and Iowa, then eastward to the Atlantic. It occurs statewide in Florida in pond, lake, canal, and natural stream habitat.

The warmouth's thick, husky body is not quite as rounded as those of most other sunfish, but tends to be slightly more elongate—more basslike. Its mouth is long and wide; its eyes, red. Its body color is generally brownish with hints of lavender reflections. The belly is usually greenish yellow. Three to five dark bands radiate back from its nose, and on its sides are dark mottlings generally arranged in vertical groupings.

The extension of the gill flap is dark, but rimmed with a dirty white or olive color. One early naturalist, Bartram, was carried away, romantically, if inaccurately, describing the gill cover as ". . . terminating in a little spatula, the extreme end of which represents a crescent of the finest ultramarine blue, encircled with silver and velvet black, like the eye in the feathers of a peacock's train."

The best warmouth distinction is the patch of teeth on its tongue, which no other Florida fish of this group has. Small, and clustered in a horseshoe-shaped pattern, these sandpapery bristles presumably aid the fish in grasping and holding prey.

The large, very basslike mouth of the adult warmouth is another aid to its identification. The line of its closed mouth reaches back beyond the front portion of the eye.

During the breeding period, the male sports a bright orange spot at the base of the last three rays of its dorsal fin.

Familiar with the rock bass of northern waters, newcomers to Florida may, from superficial appearances, confuse the rock bass with the warmouth. But the warmouth has only three spines in its anal fin while the rock bass has six. Too, the rock bass has a restricted Florida range, being found only in the streams of the panhandle.

As the common names of the warmouth suggest, it prefers relatively shallow, weedy, mud-bottom situations, and, while fairly widely scattered in most aquatic situations (except fast-moving streams) it normally is most abundant in swampy lakes and in the Everglades canals.

Around trees, logs, and stumps are favored hangouts. As a general rule, the smaller warmouths insist upon some type of shelter, but the larger ones frequently roam into deeper, cleaner water.

One of the most comprehensive studies of the warmouth was completed in 1957 by R. Weldon Larimore in Illinois. He came up with a lot of facts about this fish's natural history which, up to then, had merely been assumptions.

Larimore, and other researchers, found that spawning takes place in the spring—with the male doing most of the work. He selects a nest site, usually on loose silt, on sticks or leaves, or on other rubble —but rarely on clean sand. Running at the spot head down, the male makes an abrupt upward turn, flicking three or four times with its tail to clean the nest area of loose materials.

A lazy male, or one who has his work interrupted when a "ready" female comes along, may build a 4-inch-wide nest. Given time, a frustrated male may enlarge it to 18 inches and dig it 5 inches deep.

When a gravid female approaches, the male dresses out in bright colors, turning a bright yellow,

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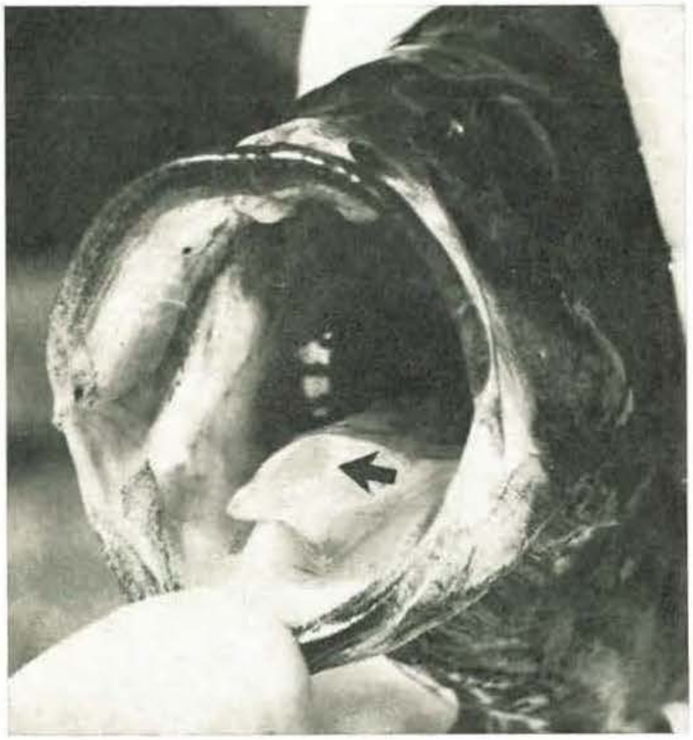

A still, dark pond, above left, may mean good warmouth fishing. When in doubt of a panfish catch, check tongue for rough teeth, left, found only on warmouth. Worms are best bait, below, but warmouths will sometimes strike minnows and small artificials.

Photos By Art Hutt

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eyes glowing blood red, the spot on the back, near the base of the dorsal fin, shimmering. Mouth agape, gill covers flared, the male aggressively herds the female into the nest, where she, caught up in the spirit of things, whacks him on the side as a signal for the simultaneous extrusion of eggs and milt over the nest.

While the number varies, a female warmouth just over 5 inches long may lay from 10,000 to 40,000 eggs. Once deposited, the male guards them faithfully, rushing openmouthed at intruders, turning sideways to flick watery shock waves with its tail. He also attempts to keep the eggs clean and aerated by gentle fanning.

The eggs are subject to predation by other fish, including other warmouths. Siltation often smothers them, and a rapid temperature drop may cause a fungus severe enough to prevent development.

Hatching takes about 36 hours. The young warmouths hide in the vegetation until they are able to fend for themselves. The parents make no attempt at protection of their brood.

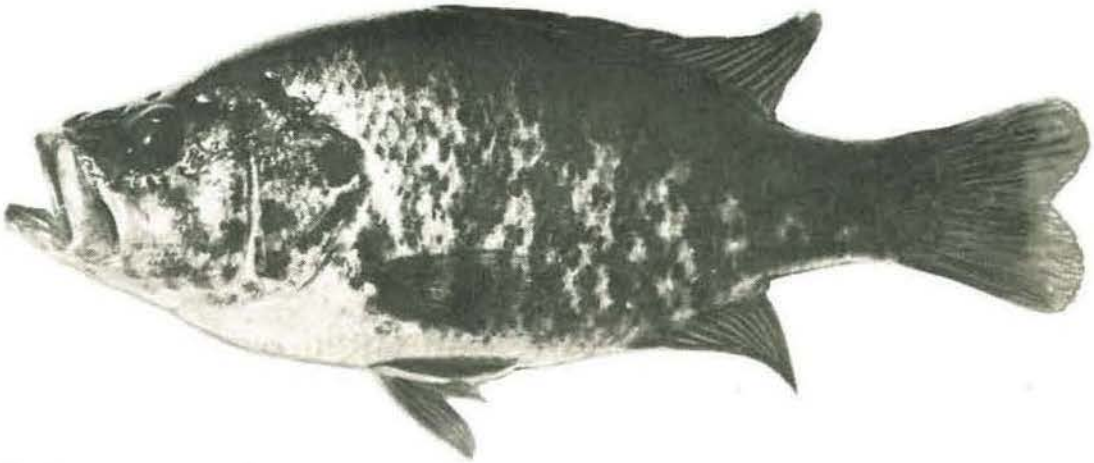
By fall, the young warmouths are from ¾-to-2 inches long. At one year, they're about 1½-to-3 inches long, or a little more. They mature in 3 years. As adults, they're not line breakers, only reaching about 10 inches in length and 1 pound in weight.

A new record fish has apparently been caught in Florida's Tiger Lake in Polk County. A warmouth 11½ inches long and weighing 1 pound, 6½ ounces was recorded by Game and Fresh Water Fish Commission personnel in April 1970. The bare facts are all we have. The angler's name, method, and exact date have escaped us so far.

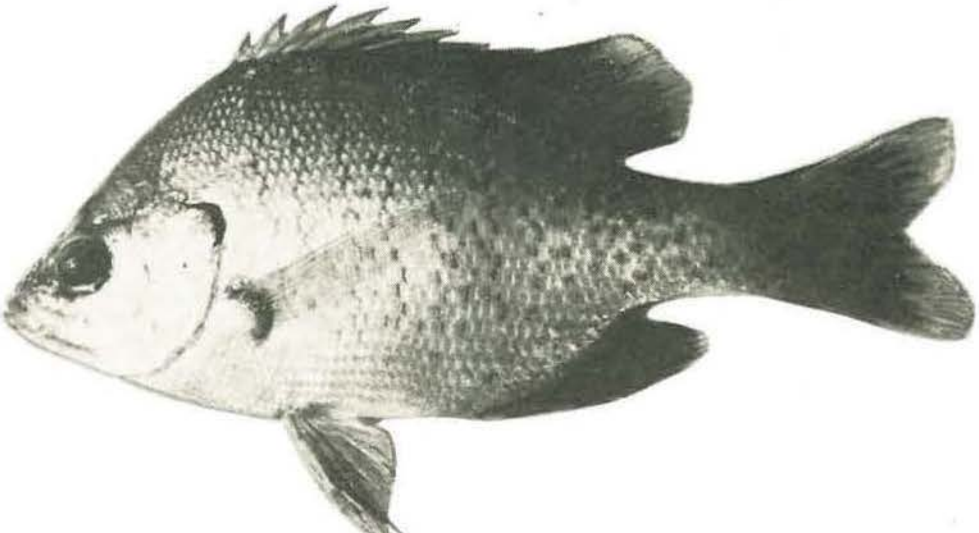
Another beauty, though not a record, was caught by Gordon Rich of Eustis. It weighed 14½ ounces, was 10⅝ inches long, and 9 inches around. Rich caught it in an irrigation pond on a minnow, took it uptown to have it weighed in, then released it back into the pond—wanting it to grow up, maybe!

Whenever a small irrigation pond is dug, you can almost predict the warmouth will be the first catchable fish to appear in it. But in small ponds they tend to overpopulate and stunt themselves, a situation that is obvious in many of the manmade ponds in Florida. Yet, where they are in combination with other fish, they're considered desirable since they do not crowd out other species.

The warmouth could be called the "toughest"



Photos By Art Hutt



Compared with a bluegill, left, warmouth, above, is chunkier, and more basslike in body shape and the mouth size. Warmouths love shade and protection of sunken logs, above right.

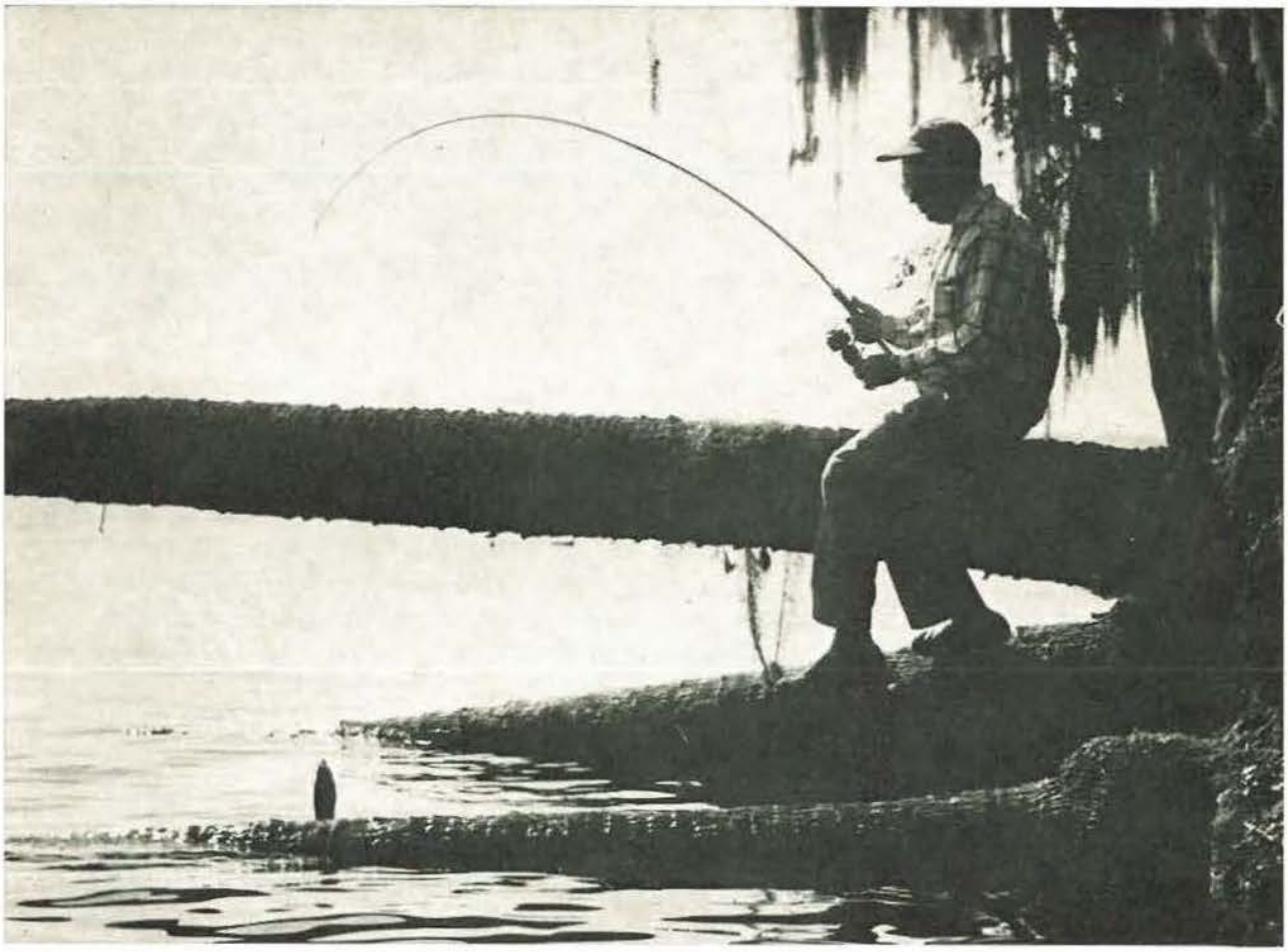


Photo By Wallace Hughes

member of the sunfish family as well as the "gamest," for it not only accepts water more turbid than most other centrarchids will endure, it also tolerates conditions of low oxygen longer.

In the Everglades areas, for example, whenever drought conditions persist and fish are "bunched up" into oxygen-depleted holes, the warmouth hangs right in there with the gars and bowfins, being the last of the sunfish to disappear under such conditions.

The warmouth eats anything readily available—the young preferring immature and adult insects, the oldsters graduating to small fish, snails, worms, freshwater shrimp, and crayfish.

The fish was netted as a commercial species in North Carolina during the early 1900's, and as late as 1937 it was still an important part of the commercial catch at Reelfoot Lake, Tennessee.

They are not that important numerically in Florida. Although I have fished the state many years, personally I've never heard anyone say they were going out to catch a mess of warmouths. While there are undoubtedly some areas in Florida where this is possible, and where it is done, my limited experience with the species has always been incidental. It always popped up while I was fishing for something else—or just fishing, period.

I remember a pond below my home where a slow, hesitating run with a plastic worm turned out to have been made by a wide-mouthed warmouth. I've scored several times since in the same spot, and the warmouths have always been identical in their stop-and-go actions as they mouthed the lure.

They'll grab your minnow when you are after crappies, but I'd bet most incidental warmouth catches are made by bluegill or shellcracker fishermen.

Forrest Ware, fishery biologist with the Game and Fresh Water Fish Commission at Lakeland, tells me of at least two warmouth hotspots in the state. One is in the Everglades canals, where people use cane poles and worms to clobber them in the deeper holes near some little outflow. Grass shrimp are also an excellent bait there.

The other place Ware mentioned is the Withlacoochee headwaters, in the Dade City area. The use of artificials, especially small spinners, is popular for them there.

Of course, there is always the St. Johns River. Bill Fisher at Deland's Hontoon Marina and Resort assures me that many of his customers do go out specifically for warmouths, particularly in spring and summer. They work the edges of the hyacinths or along the banks in slow water anywhere from a foot to several feet deep. They use cane poles with perch-size hooks baited with worms or min-

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nows, or they flyrod along the same edges. If the fish are in the biting mood, even a small piece of rag on a hook will fool these hand-size huskies.

"There's no fish like 'em for catching or eating." Fisher says he hears that statement over and over again through the warm months.

In general, if I were real serious about catching warmouths, I'd try one of the above-mentioned spots, or I'd pick a muck-bottomed lake or pond with a lot of underwater vegetation and, ideally, with a fringe of cypress trees and stumps around which to drop my bait. If the float didn't commence to bounce in the shallow areas, or if it bounced too much because of small-size fish, I'd move out into the deeper, more open holes to see if there weren't a few bigger ones there.

My basic bait would be worms, although I'd try side orders of small minnows, cut bait, clam pieces, grass shrimp, crickets, or white grubs. I'd always fish close to the bottom for warmouths, particularly in fall and winter.

Artificials might include small streamers and poppers—especially in the spring and fall—or spinners and jigs, the latter being a particular favorite of Phil Francis, outdoor writer and famous fisherman in the Clewiston area. Francis, an advocate of the bottom-bounced jig, ranks this method as more successful than natural bait.

Of course, the drawback to artificials is that in many of the normal haunts of the warmouth, lures are difficult or impossible to maneuver.

I've heard it from others and can vouch for the fact that warmouths love old wooden bridge pilings across slow-moving streams. As a youngster, I used to catch quite a few on worms from under one such rickety structure crossing Blackwater Creek near Lake Norris in central Florida. While my dad and his cronies shiner fished for bass, I'd canepole around the bridge. If memory serves me right, it was warmouths I usually caught.

Despite a few comments I've heard about the "muddy" taste of warmouths, there are those of us who consider it a prime eating fish. Its usual habitat may suggest an unappealing flavor, yet I've always found them firm- and sweet-fleshed—fish worthy of any palate. The flavor hints very subtly of a mild channel catfish, at least to my untutored taste buds.

There's no doubt there is more meat per inch on the bulky-bodied warmouth than on any other Florida panfish.

At one time, back in the 1950's, the warmouth was in favor with the biologists, and was researched heavily for several of its potentials—or lack of potentials.

It appeared that, with its low productivity, the warmouth would not crowd out and dominate at the expense of other species in a stocked lake or pond. Therefore, it would need little of man's control. Also, as a laboratory fish, its hardy makeup and calm, tolerant disposition made it easy to work with. Then, too, the spotlight was on the fish for its willingness to bite, its spunkiness on the hook, and its edibility.

But somewhere along the line, the warmouth fell back into relative anonymity among fishery managers.

Whether or not you agree with the oft-stated panfisherman's opinion that warmouths are "No. 2" for gameness, this hardy, inconspicuous little weedy-water-dweller will always be around, perhaps "trying harder" to add a little spice to your Florida fishing pleasures. ●

Photo By Art Hutt

The thick, chunky body of the warmouth makes good eating. It has more meat per inch than any other panfish. Flavor varies, but most people like them; flesh is firm and sweet.

Chuck-Will's-Widow

By GENE SMITH

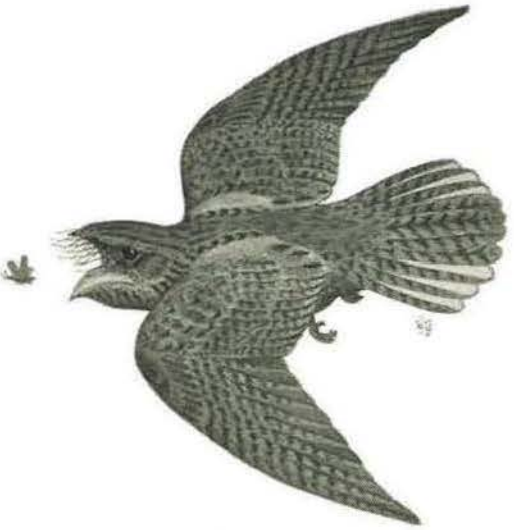
ASIDE FROM SEVERAL species of owls, and a few vociferous mockingbirds on moonlight nights, the South's commonest night-calling bird in spring and summer is the chuck-will's-widow. The chuck-will (for short) is so seldom seen, however, few persons coming across one even in broad daylight can readily identify it.

"There is no doubt that the voice of the chuck-will's-widow is its most interesting and outstanding characteristic. Indeed, it is the one thing many ever know of the species," wrote the late Arthur Cleveland Bent. He was right, and to this statement we would add that it is remarkable that so many people, upon hearing a chuck-will's-widow calling, casually remark about some quality of the *whip-poor-will's* song! Since the days of yore, the latter has been erroneously credited with the familiar call of the chuck-will's-widow. To be sure, the two birds are closely related, but their call notes are quite different—and only rarely are they both heard in the same vicinity at the same time of year.

The chuck-will is a common *summer* resident of the entire state of Florida, including some of the upper Keys. The whip-poor-will is only an occasional *winter* visitor here. It spends its summers from northern Georgia and South Carolina northward. So those aren't whip-poor-wills we hear calling plaintively back and forth in the still of the night; they are chuck-will's-widows, and if we listen attentively we will hear them saying their name quite plainly.

The call of the chuck-will has four syllables with accent on the third: chuck-will's-WID-ow . . . chuck-will's-WID-ow . . . etc., sometimes repeated a hundred or more times without a pause. (One amazed ornithologist counted 834 repetitions—more than a half-hour's worth of continuous calling by the same bird!) The "chuck" note is lower in pitch and coarser in tone quality than the other three. Consequently, it may be missed if the distance is great or if there are extraneous noises near the listener. But on a calm night in the country, the chuck-will's-widow says its full name.

For the sake of comparison, the whip-poor-will's call is three-syllabled—just like *its* name—with accent on the last note: whip-poor-WILL . . . whip-poor-WILL . . . , or a better written description of the call might be: pur-ple-RIB . . . pur-ple-RIB . . . etc. If one is very close to a whip-poor-will he can hear a detached and very faint "chuck" or "shuck" note just before the clear, three-syllabled call. But even so, the calls of the chuck-will and the whip-poor-will are utterly distinctive.



Bristles around the beak aid chuck-will's-widow capture of flying bugs.

Both of these birds are tremendously beneficial, for they consume prodigious amounts of flying insects. They take their food on the wing, for the most part, in great, gaping mouths trimmed with long, bug-catching bristles.

The chuck-will is the largest member of the family of birds called Goatsuckers. Its wingspan is around 25 inches; its overall length, 11 or 12 inches. (Besides the chuck-will and whip-poor-will, there are also poor-wills, which live in the West, and nighthawks, which range all over the U.S.—the birds many Southerners call bullbats.)

The chuck-will's-widow nests on the ground, or, more accurately, lays its eggs on the ground, for no semblance of a nest is built. Two eggs are deposited in the leaves on the woods floor. They are white-to-creamy and beautifully splotched and speckled with varying shades and amounts of brown, lavender and blue.

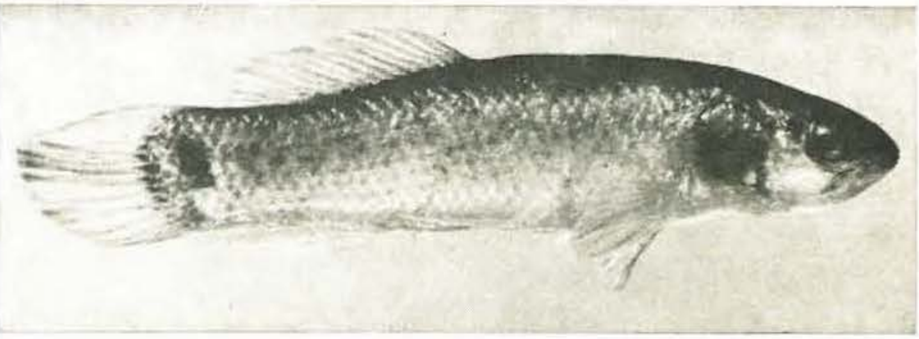
Many eyewitnesses have recorded in their field notes that the female chuck-will almost invariably moves her eggs if they are touched by human hands. She does this by taking them in her wide mouth, one at a time, and flying to a new location, where incubation is resumed.

Driving along a dirt road at night at this time of year will usually reveal a chuck-will or two sitting in one's path, their eyes shining with a reddish glow as headlights are reflected. Care must be taken by the driver or the birds might not fly in time to avoid being hit. They can be closely approached from behind while in the glare of a bright light.

Another quaint characteristic of the chuck-will's-widow (and its allies) is that it normally perches lengthwise on a limb rather than crosswise like most birds. This posture lends additional protection to these superbly camouflaged birds as they while away the daylight hours. Their low profile and drab color help make them look like nothing more than a bump on a branch. ●

some Florida minnows

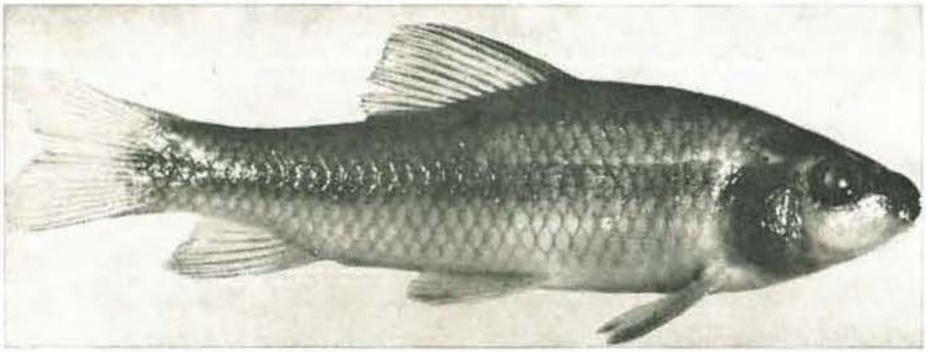
Photos By
Vernon Ogilvie



Mudminnow

Umbra pygmaea

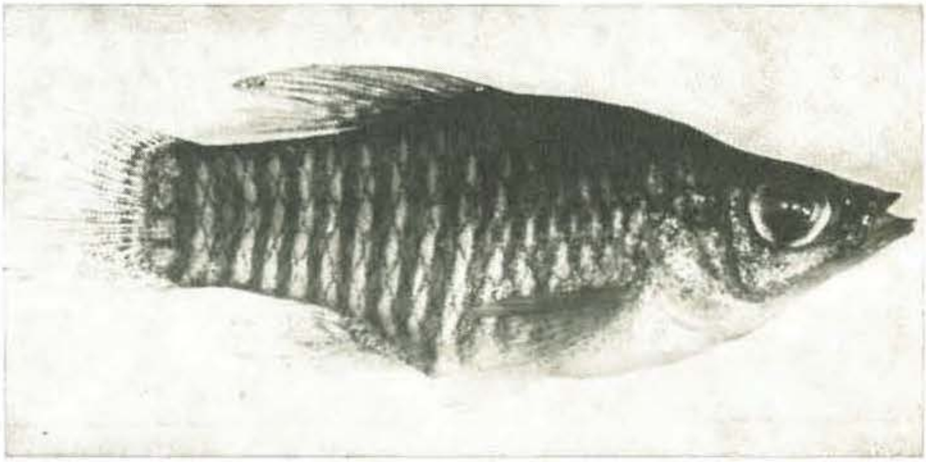
Growing to a length of 4 inches, this greenish minnow inhabits the muddy streams and swamps of northeastern Florida. A dark bar or spot at the base of its tail fin, and its blackish lower jaw, identifies the species.



Lake Chubsucker

Erimyzon sucetta

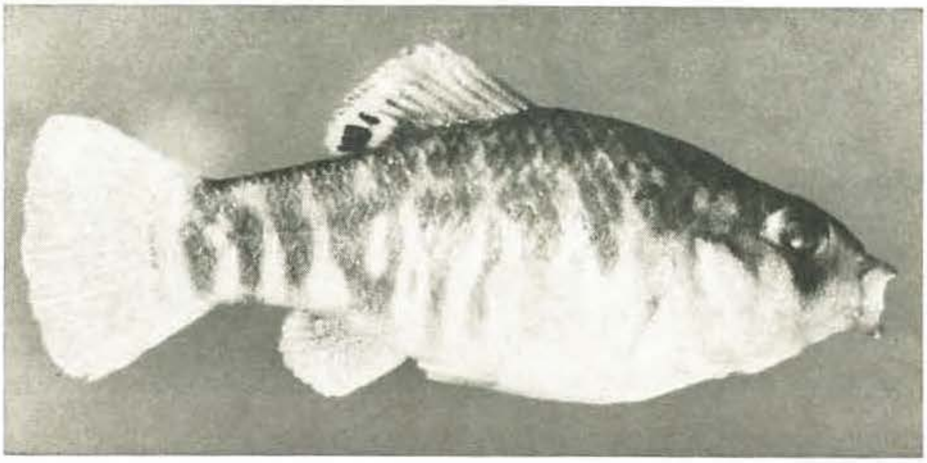
This fish has a suckerlike mouth, and may grow to 12 inches and weigh more than a pound. Found statewide in most bodies of fresh water. The adults are muddy orange or reddish in color (darker above than below). The young are paler, with a broad black line down the sides. Good bass bait.



Diamond Killifish

Adinia xenica

Named because of its diamond-shaped profile, this fish inhabits salt water or fresh water streams emptying into the Gulf. It has a silvery-green color, with numerous pearly vertical bars on the sides, and grows to a length of 2 inches.



Sheepshead Minnow

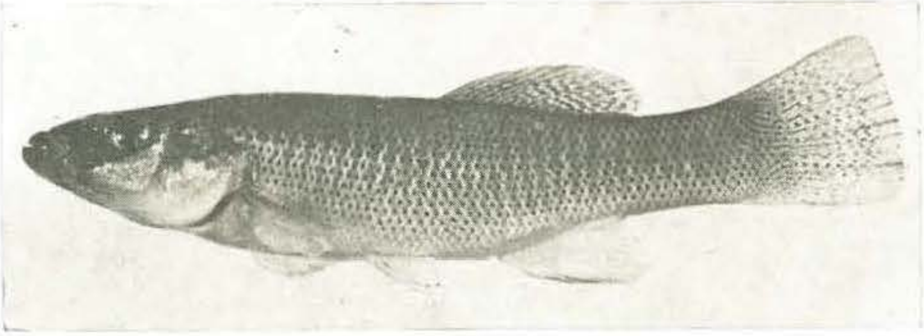
Cyprinodon variegatus

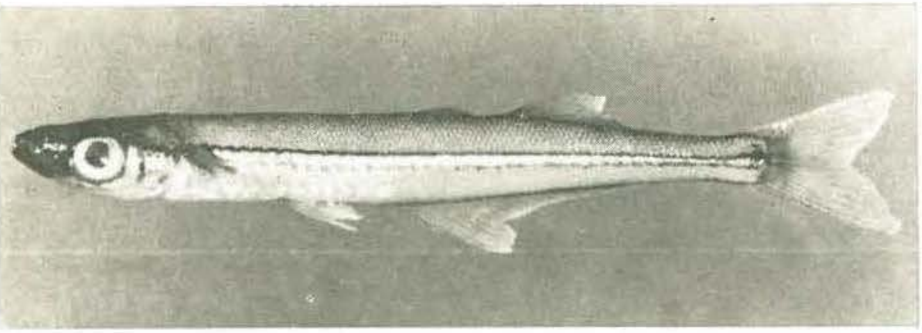
Found mostly in salt water marshes, although it is often found far upstream in rivers that flow into the marshes. Its head is brassy orange, sometimes shading to orange behind the head. The sides are greenish or bluish-gray, with vertical bars or blotches. May attain 3 inches in size.

Caledonian

Fundulus seminolis

This slender killifish is found in rivers, swamps and some lakes. It is a good bass bait, but is difficult to keep in a bait well or aquarium because it is an active jumper. Color is olive green. Dark edges on the scales give its characteristic speckled appearance. It may reach a length of 9 inches.





Brook Silversides

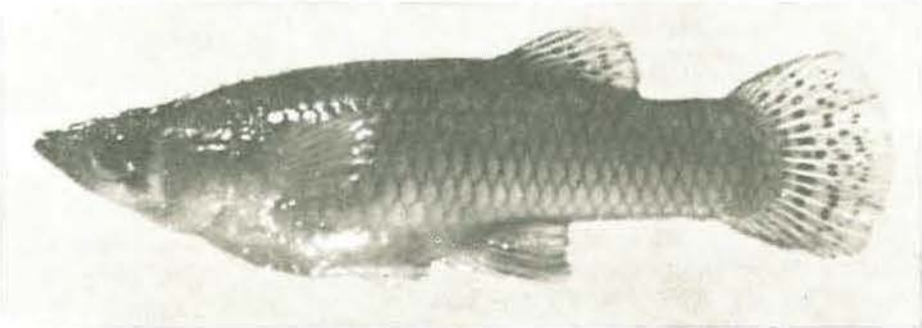
Labidesthes sicculus

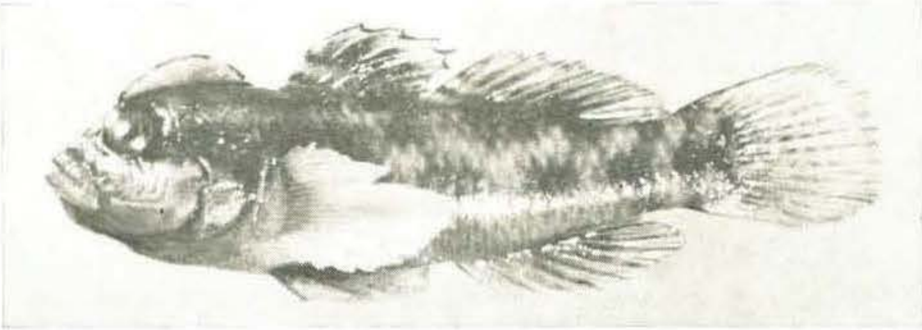
Preferring streams and clear water lakes, this streamlined surface swimmer stays in schools throughout its life. It is an excellent food for bass and other game fish. Colored silvery-green, with a narrow, pale stripe on each side, it may grow up to 4 inches long.

Mosquito Fish

Gambusia affinis

A prolific live-bearer, it is found in all kinds of fresh water statewide. It is valuable as food for game fish and helps control mosquitoes by feeding on the larvae. Color is grayish above and whitish below. The female has a black pregnancy spot on the belly. Grows to a length of 2 inches.





Crested Goby

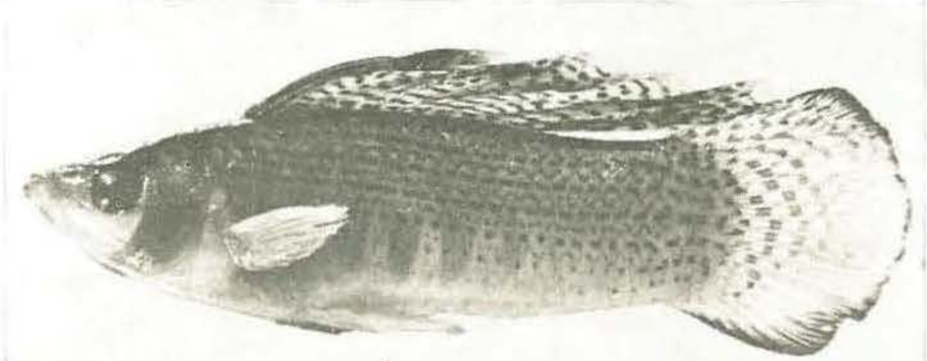
Lophogobius cyprinoides

Inhabits the sea coast and fresh water streams entering the sea in southern Florida. Color is greenish-black. A 2-inch fish with a big head and high fins.

Sailfin Molly

Poecilia latipinna

An attractive aquarium fish with a large dorsal fin, found in lowland streams and swamps statewide. Greenish-olive in color with dark spots on scales forming stripes on sides. Grows up to 3 inches long.



Woodmen of the World

Award to Sam Sundvik

Photo By Gene Smith

Sam Sundvik, right, of Lanark Village, accepts the Woodmen of the World Natural Resources Conservation Award from Supreme Court Justice, Hon. Richard W. Ervin of Tallahassee. Sundvik was commended for a lifetime of service to good conservation.

WELL-KNOWN conservationist Sam C. Sundvik, 77, of Lanark Village, was recently honored by the Woodmen of the World for a lifetime of involvement and leadership in the protection and enhancement of the nation's natural resources.

Presentation of a handsome plaque, the fraternal organization's Natural Resources Conservation Award, was made in April by Florida Supreme Court Justice Richard W. Ervin of Tallahassee, a longtime member of the W.O.W. board of directors.

Commenting on the coveted award, Justice Ervin said, "Since the 1890's, the Woodmen have encouraged good forestry management and other sound conservation practices. From time to time, we recognize worthy individuals who come to our attention because of outstanding personal contributions to these vital causes. It would be difficult to find one more deserving of recognition than Sundvik."

From his youth, Sundvik has been close to the outdoors. As a lad just out of high school, he served a rugged apprenticeship during the construction of the final 800 miles of the transcontinental Canadian-Pacific Railroad through the wilds of northern Canada.

Says the retired engineer, "During those years as a trailblazer traversing the frozen tundra and muskeg swamps, I absorbed enough 'backwoods culture' to last a lifetime, I thought. But I had only begun what was to become a full-blown affair with nature and conservation."

Noting the desolation wrought by high winds and man's plows on the treeless prairies of South Dakota in the early 30's, Sundvik set about cooperating with farm bureaus and youth groups to begin the planting of trees, encouraging farmers to leave fencerows uncleared, and promoting the planting of multiflora rose along fencerows to provide shelter for wildlife.

In 1937, Sundvik and the late Lou Barkenhausen joined with a group of other conservation-minded men to establish Ducks Unlimited, the privately funded waterfowl conservation organization. It was Sundvik's responsibility to spearhead a drive for funds in Illinois in 1940 for the construction of Lake Illini in Canada as a duck breeding area. He later became a director of Ducks Unlimited and served in that capacity for a number of years. He is still active in DU affairs.

During the sea lamprey scourge in the Great Lakes in the mid-40's—which all but eliminated lake trout and walleye fishing—Sundvik worked with various state and federal agencies and scientists from the University of Illinois and Dow Chemical Company to control that menace to sport fishing.

Sundvik was president of the American Crow Hunters Association, the Cook County Council of Sportsmen's Clubs, several local clubs, and was secretary and a director of the Illinois Federation of Sportsmen's Clubs. He has been a member of the Outdoor Writers Association of America for nearly 30 years.

In Florida, Sundvik has been a staunch supporter of the Game and Fresh Water Fish Commission and is a former director of the Florida Wildlife Federation. For his early efforts on behalf of the Commission-operated South Florida Youth Conservation Camp near West Palm Beach, Sundvik was made an honorary camp director—"Or," he says with a grin, "maybe that was '*ornery*' director!"

For his many accomplishments in conservation work, Sundvik credits an understanding wife and family, and cooperative employers who allowed him time off when he needed it. Much of his work can also be attributed to his willingness to travel at his own expense many times to accomplish a task, and his sincere desire to be of service.

"I'd do it all over again," says Sundvik. "It's been hard work, sure, and there were disappointments along the way, but I've enjoyed it to the utmost." ●

Scope Mounts

there are various points to consider when selecting scope-and-receiver sight combination for more versatility in a hunting rifle of any caliber

By EDMUND McLAURIN

IT IS IMPORTANT to a shooter that the comb of a rifle stock give correct support and steadying influence to his aiming eye, regardless of the sights he is using, metallic or telescopic. This is one of the prerequisites of consistently good shooting with rifle or shotgun. By repeated mention, I'm trying to help shooters keep this factor in mind.

Stock comb height is correct when the aiming eye instantly finds the center of the sighting plane and obtains fast alignment *every time* the firearm is shouldered and aimed.

There may be a little problem if both metallic sights *and* a scope are to be permanently mounted on a rifle for optional use. Quite likely, comb height will be incorrect for one or the other. A stock with a comb made for low metallic sight line will usually be too low for proper support to the shooter's face when he's using the scope, with its higher sighting plane.

In many cases, however, a stock comb that correctly gives straight, natural aiming eye alignment with a scope can be used with metallic sights if the shooter consciously presses his face down hard on the stock.

Even so, some stock combs originally made to give scope height sighting plane will be found too high for this compromise action unless judiciously lowered. Removing as little as 1/16 of an inch of wood from the stock comb can make a surprising difference in face fit and aiming eye alignment.

Of course, a scope sight can be mounted offset from the rifle bore in a sighting plane separate from that of the metallic sights and optionally used by shifting the head and aiming eye to the side for taking scope aim. (Personally, I've never liked such sight mountings. When I must use sights in combination, I much prefer to have the scope mounted centrally overbore.)

For years, I have used the Pachmayr Lo-Swing, Weaver Pivot, and Redfield Pivot scope mounts positioned directly above the rifle bore and metallic sights. These mounts permit instant, optional use of metallic sights simply by swinging the scope, in its holding rings, to one side on a noiseless base hinge.

However, I find that many hunters want both scope and metallic sights *permanently and rigidly* positioned one above the other, so they can use either by merely holding the head high for the scope and low for the metallics. For them, there are several practical "tunnel-type," or "see-through," scope mounts that put both scope and metallic sights in a common overbore alignment (vertically), with the low metallics seen through the tunnel portion of the scope mount.

Properly installed, such mounts have the advantage of great strength. Since the scope sight is rigidly mounted, there is little risk of even slight alignment change. It is necessary, though, to obtain the correct mount for your particular rifle model and install it, or have it installed, exactly in accordance with manufacturer's instructions.

There are three quite practical scope mounts that give rigid scope sight mounting *and* the "see-through" feature. They are the top-mounting Holden, the Kwik-Site, and the Williams Sight-Thru. (Williams also makes a mount that attaches to the side of the receiver, for rifles, like the Winchester Model 94, which are mechanically unsuited for top-mounted scopes. This mount positions the scope tube overbore and above the sight line of the factory sights.) It is a rare hunting rifle model that at least one of these brands of combination mounts will not fit.

The Holden mount is made by the J. B. Holden Company, Plymouth, Michigan 48170; the Kwik-Site by Kwik-Site Company, Inkster, Michigan 48141; and the Williams Sight-Thru by Williams Gun Sight Company, Davison, Michigan 48423. Prices of the three rival brand, top-mounting products are about the same. The Williams side-mounting base is a little higher.

All the brands incorporate split-type scope holding rings—a good engineering feature—and all are made to give rugged service, even when used on hunting rifles of heavy recoil. All are designed to utilize a rifle's factory-drilled-and-tapped sight base screw holes, if it has them. Where they are lacking, each mount comes with instructions for mounting, a job best given to a gunsmith, who'll have the needed drill and tap sets.

Besides the mount made for your particular rifle model, you'll need to match the *tube diameter* of the scope sight you'll use with the *ring diameter* of the scope mount. Most big game hunting scopes of low power have 1-inch diameter scope tubes,

(*Continued on next page*)

(Continued from preceding page)

but scopes made for .22 rifles may measure ¾- or ⅞-inch in tube diameter.

All three of the mounts described do their intended job. You won't go wrong with any of them. However, you probably will want to first study and compare the features of each product before buying. Why not write the manufacturers for technical data and illustrations, being sure to state your rifle make and model and scope tube diameter.

USING METALLIC sights, how consistently can you take aim and place shots that group close together? To be able to shoot tight groups of three or five shots, you must learn what constitutes correct sight picture and then make each shot, without disturbing your aim, the instant your brain declares you're right on target.

You may be one of those rare marksmen who can take quick aim and fire three or more shots into a small space, but for most of us, it takes considerable practice.

Actual firing is the true test of a rifleman, but the practice can be expensive if the rifle to be mastered is a center fire, such as .30-06 or .308, using commercial hunting loads.

Unless checked out and corrected, sighting errors can get in their dirty work under the cloak of firing noise and recoil. When your hits begin to spread all over the target, stop wasting ammo and promptly start performing a simple, less expensive exercise—the old U.S. Army *triangulation* correct aim lesson. I first used the method about 1929 at Fort Bragg, N. C., and have utilized it countless times since. It is not so-called "dry firing," but merely a visual acuity and control exercise. The test never fails to record just how sharp my mental image of correct sight picture is, and how consistently it is (or is *not!*) being applied. Invariably, a marked improvement in accuracy is noted when I resume firing live ammunition.

Equipment needed for conducting triangulation sighting is simple and easily assembled. Besides unloaded rifle, you will need a sandbag or other steady rest for supporting the *un*loaded weapon as you take aim. (Some shooters use a small wooden box, without a top but with notches cut in the ends and padded, to hold the rifle steady during the aiming test.)

The rest must support the rifle steadily enough that the rifleman can assume prone position and, preferably, take aim without disturbing it.

You will need an assistant to carry out the triangulation exercise. For him you must provide a box or low stool on which to sit during the sighting. He will also need a 6-inch white cardboard cutout disc with a small black bullseye pasted in the center—and a tiny pencil point hole punched in the bull's exact center.

For easy handling, the disc with the black bullseye should be attached to a handle of some sort—a section of broken yardstick or a piece of narrow, flat wood trim, perhaps.

Also needed will be a piece of white cardboard or paper large enough to be tacked to the front end of the box seat, or other firm backboard. The final item needed is a well-sharpened pencil.

When set up, the layout will consist of sandbag or box cradling the *empty* rifle, and 40 feet or more away (depending on the size of the bullseye used) will be the seated assistant with the white paper and movable bullseye. The rifle muzzle must be aligned with the white target paper.

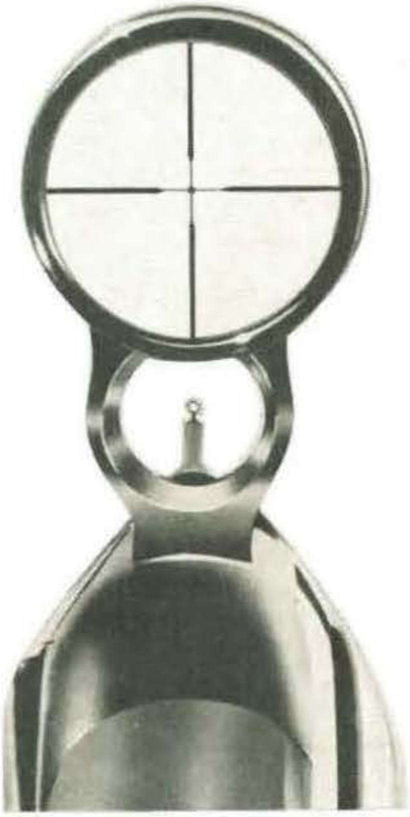
The assistant sits over the target and holds the bullseye disc in front of and against the white paper background. The rifleman assumes prone position behind the *un*loaded rifle. He does not shoulder the weapon, but lies alongside it, steadying his head and aiming eye by resting his chin in his palm—right or left hand, depending on which shoulder he normally shoots from. He touches his face to the rifle stock just firmly enough to permit taking aim. The rifle is not moved once it is placed across its support and pointed at the white paper on the distant target box or board.

Next, by simple hand signals, or by calling, the sighter directs his assistant to slowly move the target disc up, down, or sideways until the bullseye is where it should be—until the aimer decides the sight picture appears 100% correct. He then calls, "Mark!"—and his assistant leans forward and inserts the pencil point in the tiny hole in the center of the bullseye, being careful not to move the target background or his seat until at least *three* separate sightings have been made and marked. (The movable disc is taken away after each mark, of course, and the sight picture "reconstructed" by the signal system.)

The aiming test is completed when three sightings have been marked with a dot. Then, the dots on the white target paper are connected by straight lines, forming a triangle, the shape and size of which determines how near perfect and consistent were the three separate sight pictures.

At 40 feet, the three dots should be very close together, with the longest side of the triangle not over ¼-inch in length. If the triangle is large, you need to perform more of this simple aiming exercise.

Periodic triangulation exercises are a sure way to sighting skill.



The see-through design of these three scope sights combines fixed mount advantages with unobstructed use of regular metallic sights: the Kwik-Site, at left; the Williams Sight-Thru with T-N-T reticle, above; and the Holden Ironsighter, right. Priced competitively—you won't go wrong with any of them.

RECENTLY, a commercial freight carrier was given the job of trucking 800 factory-fresh Smith & Wesson handguns to a Federally licensed distributor. When the driver stopped for a traffic light—in the heart of New York City—two hijackers took over. One jerked open the door on the astonished driver's side, jammed a pistol against his midriff, and ordered him to move over. Simultaneously, the second hijacker, also armed, entered the truck cab from the opposite side. His companion slid behind the wheel and smoothly drove away when the light changed to green.

The hijacking was so precisely timed and executed, apparently no one noticed that it had taken place.

After driving the truck to a remote spot on the outskirts of the city, the two men ordered their captive out of the truck, then drove off. The vehicle was later found abandoned—empty, of course.

Eight hundred brand new Smith & Wessons that could have been legitimately purchased for either protection or sport disappeared into the New York underworld.

The robbery is a striking example of how proposed national or local gun registration will not prevent criminals from obtaining firearms. It happened in a state and city long known for the highly-touted Sullivan Law, as well as gun registration, prohibiting possession or use of handguns by unauthorized persons. The existence of restrictive handgun laws did not prevent, nor will it solve, the robbery.

When the professional criminal wants a gun—or a shipment of guns—he usually can get it one illegitimate way or another, and without the red tape that characterizes an over-the-counter firearm purchase by a law-abiding citizen.

Keep this pertinent point in mind and use it in rebuttal the next time some well-meaning, but uninformed, person tells you in all seriousness that gun licensing and registration are the solutions to armed crime. ●

Framing

Florida Wildlife Covers

If you've wished for "reprints" of some of your favorite Florida Wildlife Magazine covers for framing, here's a happy thought: You don't need them. The covers themselves are designed and printed so that the art work is suitable—and ready—for framing. For subscribers who do not want to remove the covers from their personal copies, single copies of the magazine are available for 25¢ each—far less in cost than, but exactly the same "art" size as, a cover reprint would be. By removing and carefully trimming a cover picture with a straightedge and a razor blade you have your "reprint."

Mounted on an 11 x 14-inch white background of ordinary art board or poster board your picture is almost ready for insertion into any standard 11 x 14 frame. (Ours was purchased at the five-and-dime for $2.50. Others sell for even less.)

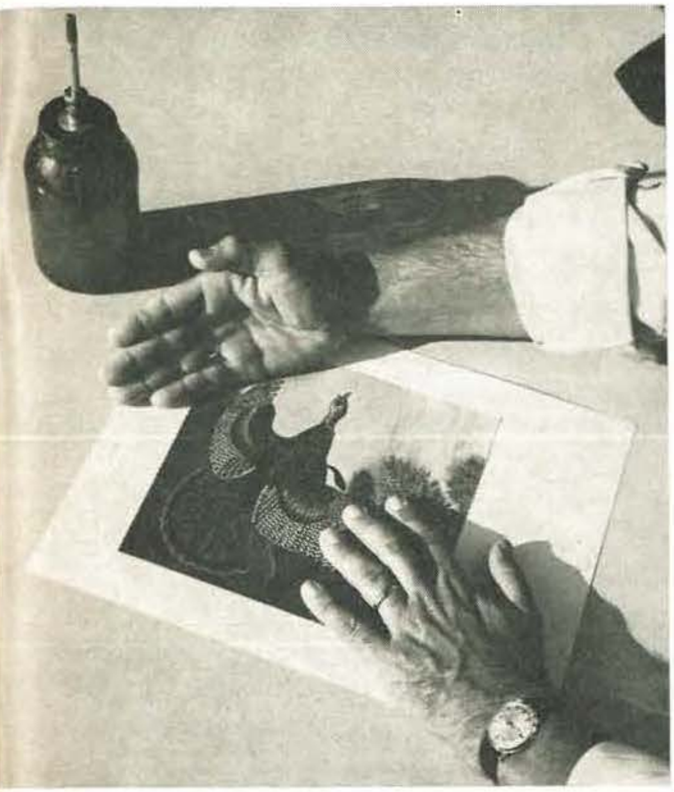
Rubber cement is ideal for attaching the picture to the background material. It can be brushed on the back of the picture evenly and any excess cement that appears at the edges while smoothing can easily be removed with an eraser or rolled off with the fingertip.

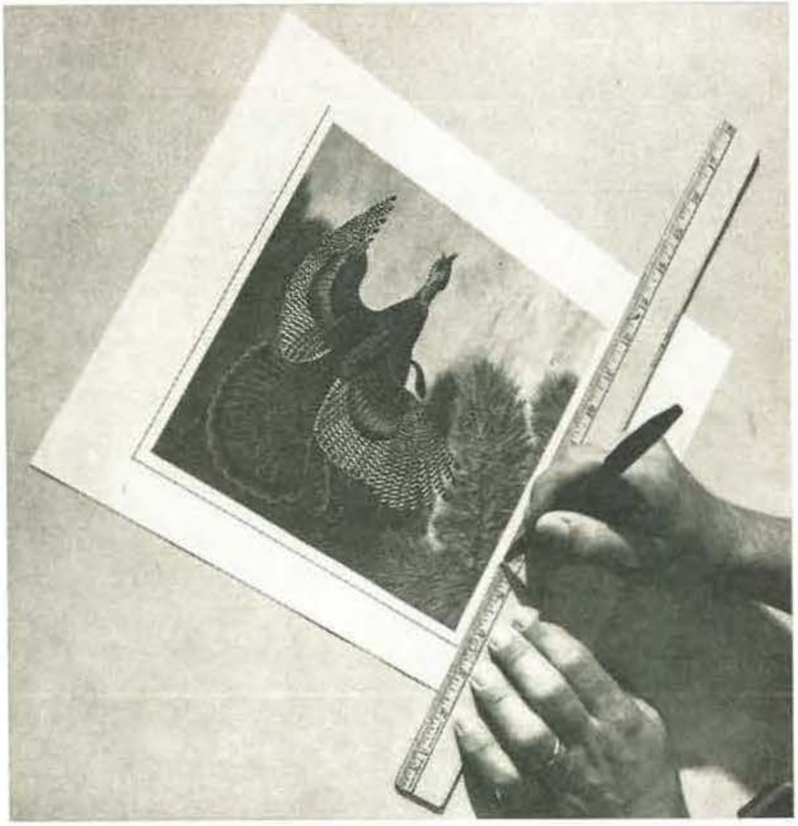
A ruled border line outside the picture's edge adds a professional look and noticeably enhances the appearance of the finished product. You'll note, too, that mounting seems to enlarge a Florida Wildlife cover picture and magnify the colors.

Be your own interior decorator when it comes to hanging your handiwork. For a large wall, you may wish to arrange a group. A single 11 x 14 will best complement the average wall. A smaller space might call for a 9 x 12 mounting, which can be done just as easily as our 11 x 14. (An 8 x 10 frame is too small to render the best effect.)

Framed Florida Wildlife cover pictures, especially those featuring Art Director Wallace Hughes' art work, grace homes, offices, hunting lodges and scout huts alike. People have discovered, too, that they make beautiful, inexpensive and lasting gifts. ●

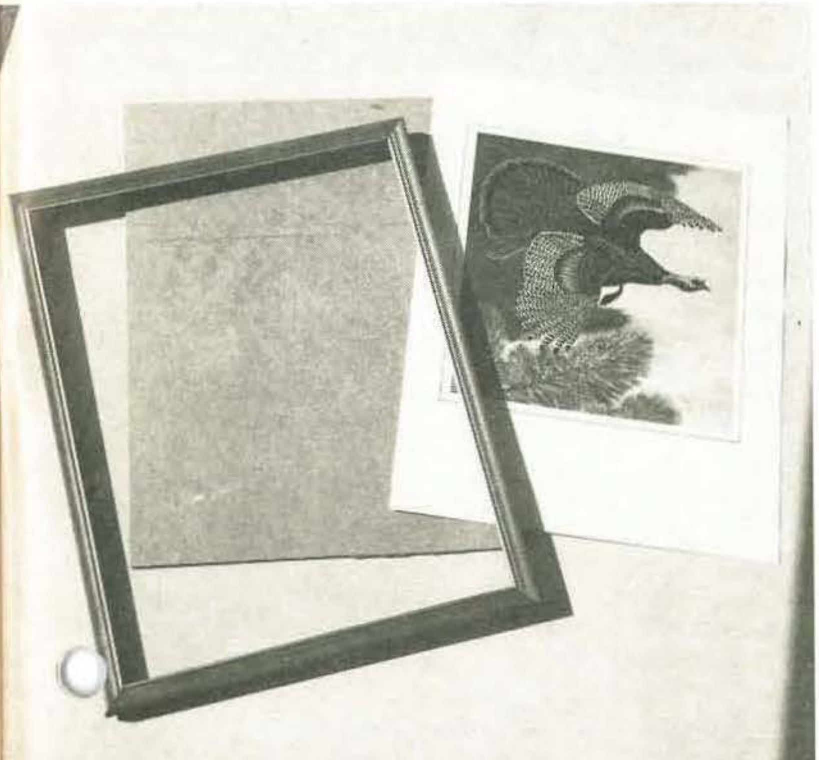
1. After cover artwork has been carefully cut out, place it on good quality white mounting board cut to fit frame. Use rubber cement for a smooth job.

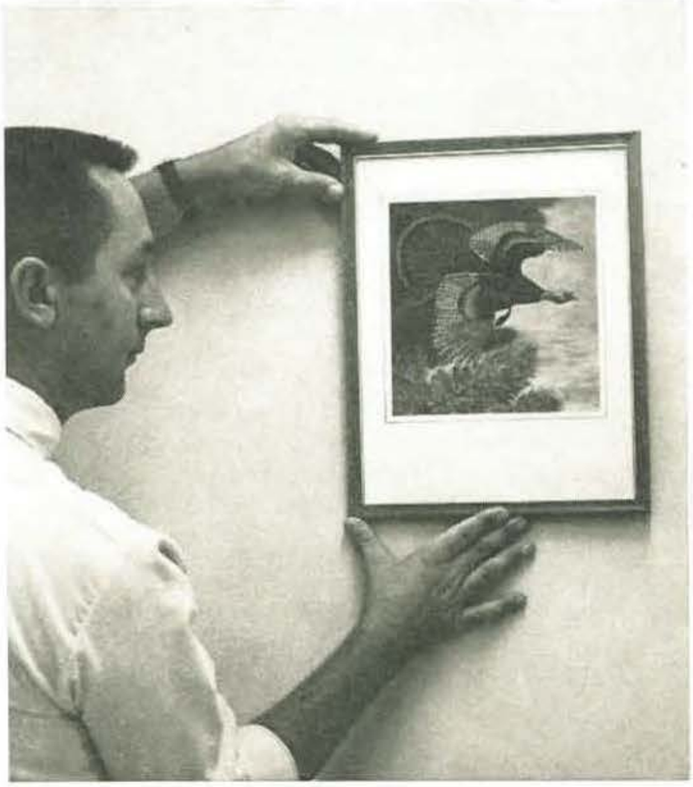




2. Excess cement should be removed before drawing a clean "ruled" line around the picture—about ¼-inch from the edge—to give a professional touch.

3. Before mounted artwork is placed in the frame, the glass should be well cleaned. A heavy backing of cardboard may be needed to provide a snug fit.





4. A pleasing balance is obtained by centering the mount to the sides—but allowing more white space on bottom than on top. The top border is 2 inches.

Reprinted—by request—from July 1967 issue

CONSERVATION SCENE

Gypsies in Florida

LARVAE OF THE gypsy moth—one of the world's most destructive pests of trees—were found May 5 at a trailer park in Pensacola, Fla., according to the U.S. Department of Agriculture. This is the first gypsy moth infestation ever discovered in Florida, though in November 1970 egg masses were discovered attached to a mobile home shipped to Pensacola's Cloud-9 Trailer Park from Connecticut.

Officials of USDA's Agricultural Research Service said Florida's invasion of tree pests apparently resulted from the insects' "hitchhiking" into the State on a mobile home. Mobile homes shipped from gypsy moth-infested locations are routinely checked by ARS inspectors.

An emergency treatment program was undertaken in the trailer park. ARS officials said the immediate infested area was sprayed with nonpersistent carbaryl. This insecticide is low in toxicity to birds, fish, wildlife, and humans.

Officials also said an intensive survey program is being put into operation in the Pensacola area. The survey will determine if gypsy moths spread beyond the trailer park, and whether further control work is required.

The gypsy moth—a foreign pest—successfully invaded most of the Northeastern United States and is threatening to spread even farther. Gypsy moth caterpillars eat leaves, and a large infestation can easily strip the foliage from an entire forest in a few days. A single defoliation may kill evergreen trees. Repeated defoliations may kill the rest.

Last summer, gypsy moths defoliated more than 800,000 acres of woodlands in the Northeast. This more than tripled 1969's defoliated acreage and is six times the amount of damage caused in 1968.

Conservation and Sportsmen

TO HELP sportsmen combat the growing anti-hunting sentiment, the National Shooting Sports Foundation has started a new program of selling booklets to sportsmen at cost.

William E. Talley, newly elected president of the NSSF, asks that the 20 million hunters and shooters in America help by informing their neighbors, schools and business associates of the many things hunters have done for conservation.

The first publication offered to sportsmen is THE HUNTER AND CONSERVATION, a 24-page booklet that summarizes the conservation achievements of sportsmen since 1900.

"The sports hunter has always been proud to devote time and money to the wise use of our natural resources," Talley says. "With our booklet as a handy guide, the sportsman has facts and figures to show his non-hunting friends the great role of hunters in pioneering conservation.

"If every sportsman would tell just one person the true facts of the hunters' programs on wildlife management, land acquisition and willingness to be taxed for conservation, we'd see a great improvement in the public's attitude towards the shooting sports."

An inexpensive program for sportsmen's clubs is the purchase of a carton of this publication to give schools, libraries and civic clubs.

"Our booklet is a real eye-opener to the non-hunting public," Talley claims. "What the hunter has done for conservation is a glowing story that the hunter himself can best tell."

Sold prepaid in cartons of 600 for $35.00, the booklets are available from National Shooting Sports Foundation, 1075 Post Road, Riverside, Conn. 06878.

DU Nesting Projects

DUCKS UNLIMITED has taken another decisive step toward the future, with the allocation of $2,500,000 for the 1971 construction of waterfowl nesting projects in Canada (where 4 out of 5 ducks begin life). Approval of this highest-in-history amount, plus the election of new officers, headlined the 34th Annual Convention of Ducks Unlimited, Inc., in Scottsdale, Arizona.

Delegates from across the U.S., Canada and Mexico participated in the convention, along with the staffs of Ducks Unlimited, Inc. and its construction affiliate, Ducks Unlimited (Canada).

The budget is the largest in the 34-year history of DU—in fact, 500-thousand dollars above previous record set last year. During 1971, Ducks Unlimited (Canada) will utilize these funds for construction of some 100 high quality waterfowl nesting areas, as

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MOVING?

If you are planning to move, please send notification four weeks before changing address. Send your address label from a current issue, plus your NEW address. This will ensure continued subscription service.

well as maintenance of existing projects. Officials reported that 84 of these projects will be built in the important prairie provinces of Alberta, Saskatchewan and Manitoba, with an additional 8 in British Columbia, and 9 in eastern Canada's Maritime Provinces.

Family Camping Ideas

"Camping!" If that's your reaction whenever someone suggests you pack up a tent and sleeping bag, and voluntarily leave home for the dubious comforts of nature, you're simply not up to date on the fine points of modern day camping.

These days, unless you're the kind who likes to rough it, you can take a camping trip that provides practically all the conveniences of home, say Norman and Priscilla Strung, authors of a new book, Camping in Comfort (published by Lippincott), which gives complete rundown on all aspects of camping—new equipment on the market (like fold-away showers, dishwashers, gas-run electric generators) and its cost; places to visit; planning a trip—even recipes for gourmet cookery over fire or camp stove.

The Strungs discuss the pros and cons of tents and trailers and station-wagon camping; extended trips and "gypsy" camping; commercial, public and private campgrounds (and where to obtain state-by-state information about them); true wilderness camping; sleeping bags (now available in paper) and air mattresses; and finally, camping in foreign countries.

For the beginner at outdoor life, Camping in Comfort outlines all the things to consider before spending a cent. The Strungs suggest that the potential camper decide his basic approach to camping (and equipment) first—does he plan to combine camping and sports? or camp only *en route* to a particular destination? and what degree of convenience does he want in his camp? Then the Strungs advocate the rental of equipment for an experimental weekend trip—perhaps no farther than the backyard—before embarking on a longer expedition.

Ob-Scene of the Month

Photo By Nancy Choike

Who ruined these beautiful cars
By planting trees around them?

Color for Protection

The mandatory use of fluorescent orange garments during deer hunting seasons is picking up increasing support throughout the country, and rightfully so. It saves lives, reports John Marsman of Savage Arms.

Since the State of Massachusetts adopted such a law nearly 10 years ago, others have followed suit, either by enacting similar laws or considering moves in that direction.

Bay State hunting accidents have dropped 67 percent since hunters were required to wear fluorescent orange apparel during the deer season. Visibility-connected fatalities are becoming tragedies of the past.

The din that was raised by opponents of the law during its formative years has subsided. Those who argued that a bright, flashy color, such as fluorescent orange, would spook deer have discovered otherwise. And no one can argue against the hunter-safety record it has established.

In the State of Maine, where natives take a heap more convincing than they do elsewhere, it seems, the proposed enactment of a color law has been placed before the legislature for the fourth time.

Prospects for passage this year appear to be brighter, however. Four years ago, a southwestern corner of the state was set aside as an experimental area to prove that fluorescent orange does cut down hunting accidents and saves lives.

Hunters were required to wear a hat, vest or other garment of the reflective material while within test area boundaries. Prior to

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adoption of the experiment, from 1959 through 1966, the average number of visibility-connected accidents was 7.2 in the area. During the four-year test period, the average dropped to 3.25, a reduction of some 55 percent.

The 1970 deer season saw four accidents occur in the test area, none of them fatal. How did the remainder of the state fare where the wearing of fluorescent orange garments was not required?

Eight fatalities were recorded. Of the total, six were in the visibility-connected category. All six victims were mistaken for game and none was found to be wearing a garment of the color mentioned.

The same trend toward hunter-safety insurance as a result of the color law can be found in hunting accident statistics (nonfatals) for last season. Of 22 visibility-connected accidents recorded in the state, 18 occurred outside the test area.

Two bills have been filed for adoption of a color law in Maine, neither one considered to be adequate by fish and game officials, but the idea is to get a foot in the door. For one thing, neither bill stipulates the amount of color to be worn.

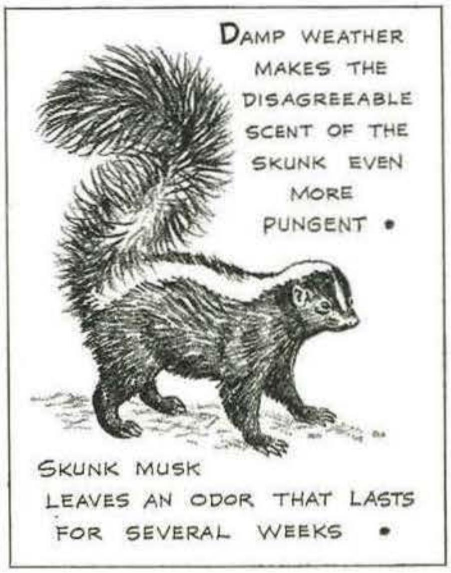
Should Maine adopt the law as proposed, it will mean that a hunter could legally wear only a belt of the prescribed color, or a hat. The bills stipulate only that the garment be seen from a 360 degree angle.

More Recycled Glass

REDEMPTIONS of used glass containers from the public under an industry-wide recycling program conducted by member companies of the Glass Container Manufacturers Institute are expected to reach an annual pace of half a billion jars and bottles this summer, Richard L. Cheney, president of GCMI, reported.

Member companies of the Institute reclaimed 96 million bottles and jars in the first quarter of the current year, Mr. Cheney said, compared with 60 million in the preceding three months and 42 million in the opening quarter of the industry-wide program, which was launched July 1.

Nature Notes


DAMP WEATHER MAKES THE DISAGREEABLE SCENT OF THE SKUNK EVEN MORE PUNGENT •
SKUNK MUSK LEAVES AN ODOR THAT LASTS FOR SEVERAL WEEKS •

"All indications point to continuation of this rising trend," he added.

The 198 million used bottles and jars redeemed during the first nine months of the program "represent nearly 100 million pounds, or 50,000 tons, of waste glass salvaged for recycling into new glass containers and other useful products," Cheney disclosed.

Glass container manufacturers paid "approximately $1 million to public-spirited citizens and organizations for used bottles and jars turned in at glass reclamation centers through March 31 this year," the GCMI president reported.

Bottle reclamation centers have been established at more than 90 manufacturing plants operated by GCMI member companies in 25 states. Payments for salvaged glass containers average a penny a pound. According to GCMI, thousands of community groups have organized bottle-collection drives in connection with local anti-litter campaigns and other civic improvement efforts.

"The great majority of the glass containers salvaged thus far have been recycled into the bottle-manufacturing process," Cheney explained. "The bottles are sorted according to color and then crushed into cullet, which is added to the sand, limestone and other raw materials that are melted down in furnaces to produce glass for new containers."

Substantial tonnages of reclaimed jars and bottles are also being used in "glasphalt," an experimental new black-top paving material which contains crushed glass aggregate instead of crushed stone.

Sections of roadway paved with glasphalt are currently being tested in actual use in more than half a dozen U.S. and Canadian cities, Cheney said, "and more are planned."

Other potential uses for salvaged container glass include bricks, blocks, insulation, wall paneling, terrazzo flooring and other construction materials; reflective highway paints, vitrified sewer pipe, chicken grit and costume jewelry, Cheney noted.

He said research indicates that "potential uses for discarded bottles and jars could absorb every ounce of waste glass we could possibly hope to find in the nation's refuse, not only this year but as far ahead as we can see."

Cheney described the current bottle reclamation program as "an important first step, but only a step, toward the long-range goal of total recycling of all usable materials found in refuse, including paper, metal, plastics and other products as well as glass."

He described this approach, which would require machinery for the separation and sorting of refuse components and the development of markets for the reclaimed materials, as "the only practical long-range solution to the nation's solid waste disposal problem."

For that BIG ONE that didn't get away

ELIGIBILITY REQUIREMENTS
SPECIES

LARGEMOUTH BASS	8 pounds or larger
CHAIN PICKEREL	4 pounds or larger
BLUEGILL (BREAM)	1 ½ pounds or larger
SHELLCRACKER	2 pounds or larger
BLACK CRAPPIE	2 pounds or larger
RED BREAST	1 pound or larger

All fish must be taken from the fresh waters of the state of Florida, as defined by the Game and Fresh Water Fish Commission. Fish must be caught on conventional fishing tackle, with artificial or live bait, in the presence of at least one witness.

The catch must be weighed and recorded a fishing camp or tackle store within the state by the owner, manager, or an authorized agent of the respective establishment.

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Where Caught __________ in __________ County

Date Caught __________ Catch Witnessed By __________

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Young Great Horned Owls (on nest)

Photo By Carson Baldwin, Jr.

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